

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No. :	10/728,060	Confirmation No. 7669
Applicant :	Kelly Tidwell	
Filed :	12/04/2003	
TC/A.U. :	1723	
Examiner :	Kim, Sun U	
Docket No. :	5983P002	
Customer No. :	8791	

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria VA 22313-1450

**DECLARATION OF KELLY TIDWELL
UNDER 37 C.F.R. § 1.132**

I, Kelly Tidwell, hereby declare:

1. I am the Vice President of Pure Power! Incorporated, located at 15751 Chemical Lane, Huntington Beach, California 92649;
2. This declaration is submitted to show the commercial success of filters in accordance with the present invention.
3. Attached are true and correct copies of the following listed publications and award information which show commercial success of filters in accordance with the present invention, Exhibits A and B of which were presented to the Examiner during the February 12, 2007 interview:

Exhibit A - Article entitled "Pure Power Oil Filter Cheap Horsepower!", Hot Rod's Bike Works, March 2007 issue, pgs. 66-69

Exhibit B - Article entitled "Pure Power's Incredible Reusable Oil Filter", Street Chopper, February 2007 issue, pgs. 21-22

Exhibit C - Letter from Challenger Aviation Products, Inc. to the undersigned regarding status of the FAA approval project for use of the spin on oil filter in aircraft engines

Exhibit D - Supplemental Type Certificate Number SE02352CH issued to Challenger Aviation Products, Inc. by the FAA approving use of the cleanable oil filter assembly in aircraft engines

Exhibit E - 2006 Jeg's Engine Masters Challenge Winner's Engine Parts Checklist, printed from www.popularhotrodding.com, Feb. 22, 2007, showing of the top six prize money winners, five used Pure Power! oil filters.

Exhibit F - Article entitled "Pure Power Trip, Project Shark Attach Gets High-Tech Filters", Corvette Fever, April 2006 issue, pgs. 80-82

Exhibit G - Article entitled "Quick Test, The Pure Power Oil Filter", Hot Rod, April 2006 issue

Exhibit H - Article entitled "The Old Dog Meets New Tricks!, The last oil filter you will ever buy", Vette Magazine, August 2005 issue, pgs. 32, 33, 35

Exhibit I - Article entitled "Oil 101, High-Performance Motor Oil Answers for Hot Rodders", Rod & Custom Magazine, March 2007 issue, pg. 24

Exhibit J - Reader letter to Popular Hot Rodding, March 2007 issue, titled "Engine Masters Family Vacation", pgs. 15, 17

Exhibit K - Specialty Equipment Market Association SEMA Best New Pickup/SUV/Van Product 2006, Runner-Up (out of over 1100 entries)

Exhibit L - "Parts Counter" entry entitled "Pure Oil from Pure Power!", Street Trucks, February 2005 issue, pgs. 24

Exhibit M - Entry in Article entitled "1,000 New Products", SEMA News, The Official Voice of the Performance, Specialty and Accessory Industry, January 2005 issue


Exhibit N - Entry in Article entitled "57 Great New Products", 4 Wheel Drive & Sport Utility Magazine, March 2005 issue, pg. 60

Exhibit O - Powerboat, January 2007 issue, Pure Power! filter is shown used in a Mercury engine in photo

4. The foregoing publications concerning filters in accordance with the present invention and evaluations thereof were obtained and published by the various publications or organizations on their own initiative. Pure Power! Incorporated has had no paid advertising.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 02-23-07



Kelly Tidwell

EXHIBIT A

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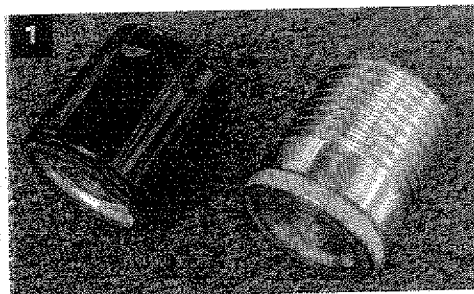
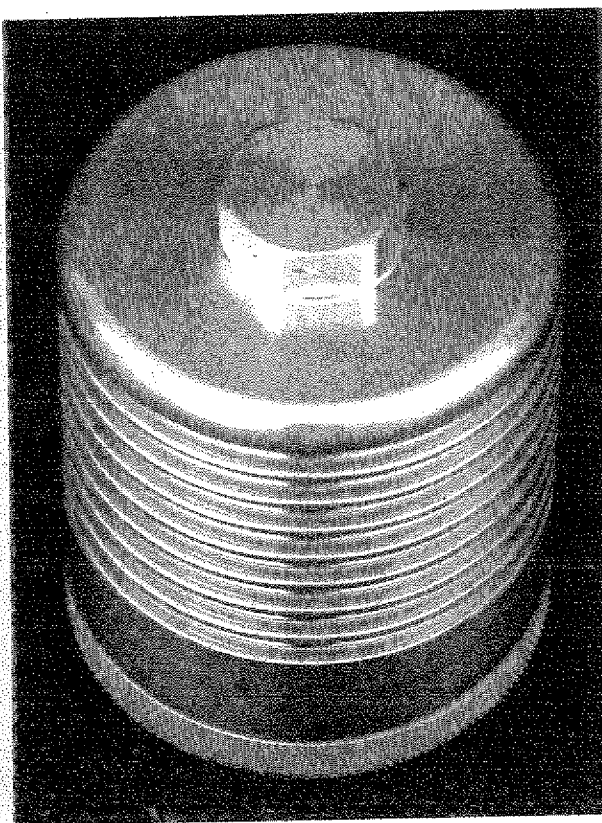
→HRBW TECH

PURE POWER OIL FILTER

CHEAP HORSEPOWER!

TEXT AND PHOTOGRAPHY BY GREG FRIEND

OVERALL RATING: ★



Pure Power's oil filter for Evos and Sportsters is almost exactly the same size as a stock filter.

power is transferred to the rear wheel instead. Basically, this filter helps your motor run more efficiently.

Not only will this filter reduce parasitic drag, but it also acts as an oil cooler, reducing oil temperature by up to 10 percent. It does this in three ways: the machined fins of the outer surface of the filter almost double the surface area of a stock filter and act as a heat sink, the billet aluminum of the housing

rockers, even lightweight titanium pushrods. Without changing a major component and spending large amounts of money, there's nothing left to hop up. Pure Power thought that we'd make about 5 percent more horsepower and torque by simply changing to their oil and oil filter (something I needed to change anyway). In a different test on a completely stock 93ci shovelhead, Pure Power swapped out the filter and oil only with no tuning at all, and made 8-horsepower and 10-ft-lbs of torque. 🏆

There are only a few ways to make cheap horsepower without tearing a motor apart: Air-intake filter, exhaust pipes, and now, an oil filter from Pure Power. It doesn't actually add horsepower, though; it reduces the parasitic drag created by standard oil filters. Parasitic drag is the power required to move the internal components of a motor—it takes power to move a piston on the intake stroke to fill the chamber, meaning air friction is a factor because the piston rings drag against the cylinder walls and create drag, and valve springs and higher compression motors also create more hurdles. This frees up horsepower that an engine would normally use to pump oil, but with a Pure Power filter that

doesn't hold heat in like the tin metal used on a standard filter, and because a larger amount of oil flows through the filter, heat is sloughed away quicker.

The filter is reusable and pays for itself in about 24,000 miles (when oil is changed at 3000-mile intervals). It can be washed off with soap and water (like a K&N air filter) because the filter element is stainless steel and everything else is aluminum, so it won't be harmed by water.

It's even harder to make more power on a motor that's already hopped-up, like this 97ci S&S-based bike—it's already putting out far more than a stock bike and was built with Patrick Racing modified heads and cam, Crane ignition, Thunderheader pipe, roller

RATING GUIDE

ABILITY	🏆	TIME	🕒
TOOLS	🔧	COST	💰

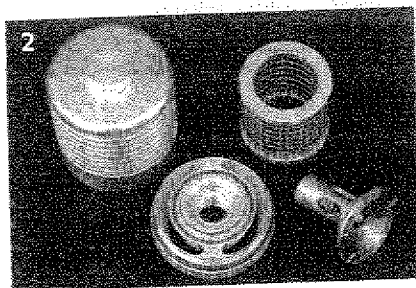
SEE LEGEND IN BACKPRESSURE

LIFESTYLE CYCLES

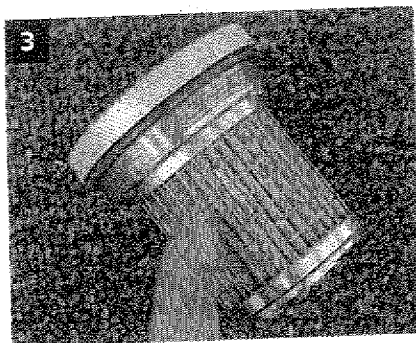
1534 N. State College Blvd.
Anaheim, CA 92806
(714) 490-0135
www.lifestylecycles.com

PURE POWER LUBRICANTS

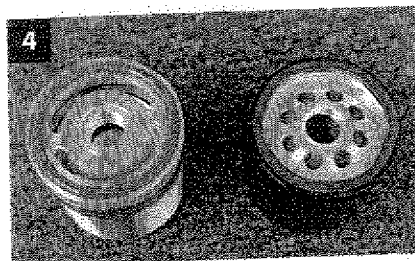
(714) 394-2694
www.purepower.com



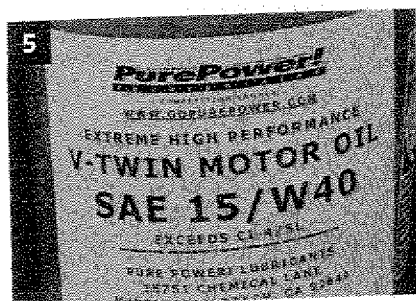
Unassembled, the filter has four major parts: A. Outer housing; B. Stainless steel filter element; C. Spring-loaded stainless steel ball bearing bypass; D. Aluminum inlet base. Every O-ring is made from Viton, and should last the life of a well-ridden motorcycle.



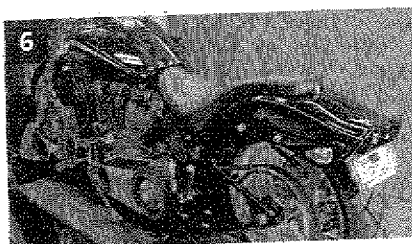
Also inside is a strong magnet, about as small as my fingernail, but strong enough to lift 2 pounds of iron-based metal.



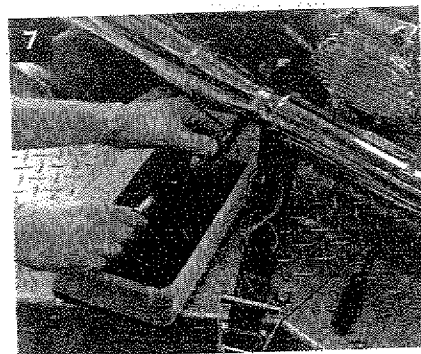
Oil is able to get in and out of the Pure Power filter faster than a stock filter—here you can see how much larger the openings are. Larger hole means faster oil flow with less resistance.



Pure Power blends their own oil as well—and recommends it above almost every other oil. Pure Power only uses the top of the line oil base and military specification oil, and tries to sell people on the reputation of their blend instead of a brand name or a price point. Most cheap oil is made from the lowest quality possible for the least amount of money.



We used the dyno at LifeStyle Cycles in Anaheim, California, to test the filter. Sparky, one of the techs there, got the bike warmed up to operating temperature (about 210 degrees Fahrenheit) and performed a few runs to get a baseline.

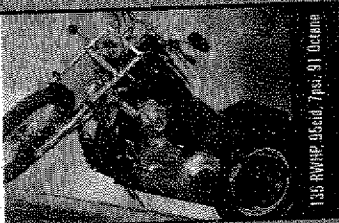


Without taking it off the dyno, we allowed the bike to cool down, then drained the old oil...

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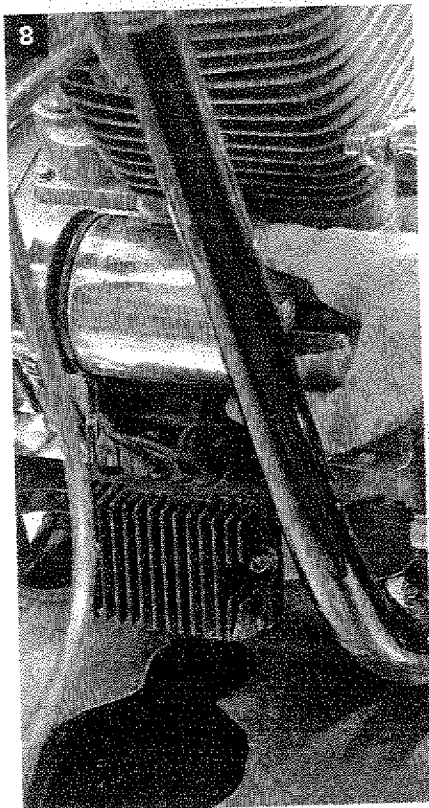
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@ 5400 RPM, 91 Octane

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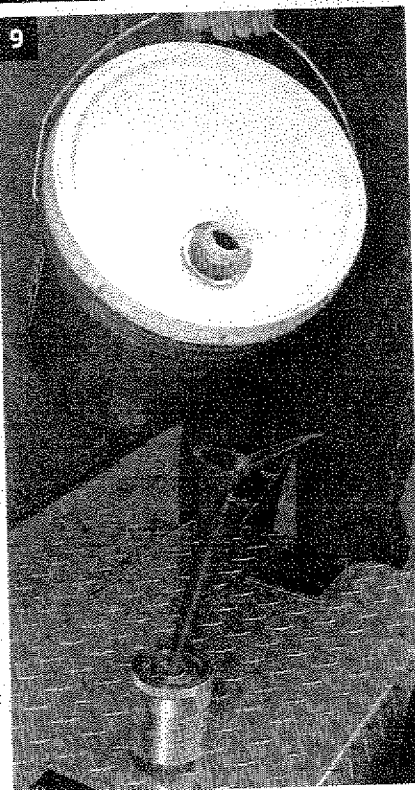
Accessible Technologies, Inc.
14801 W. 114th Terra, Lenexa, KS 66215

913.338.2886 WWW.PROCHARGER.COM

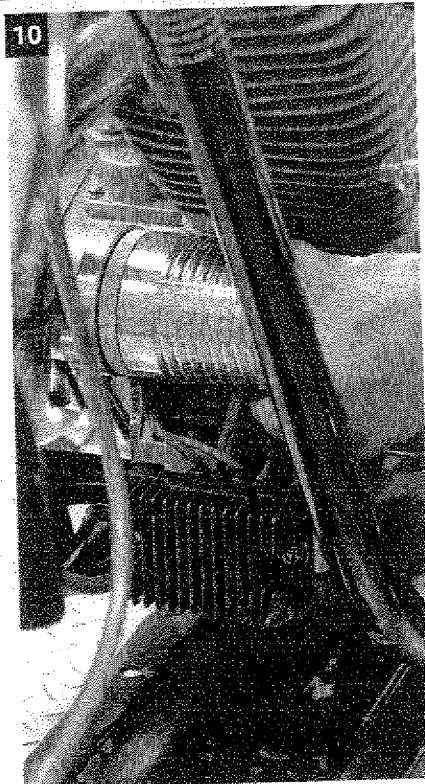
→ **HRBW TECH | PURE POWERED OIL FILTER**



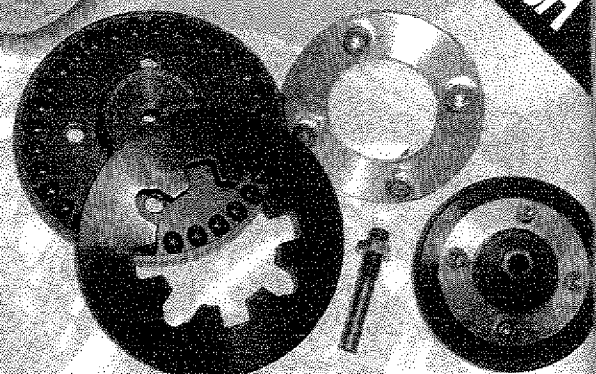
...and removed the standard filter.



Next, Sparky added about 4 ounces of oil to the Pure Power filter...



...and screwed the Pure Power filter into place just like a regular filter.

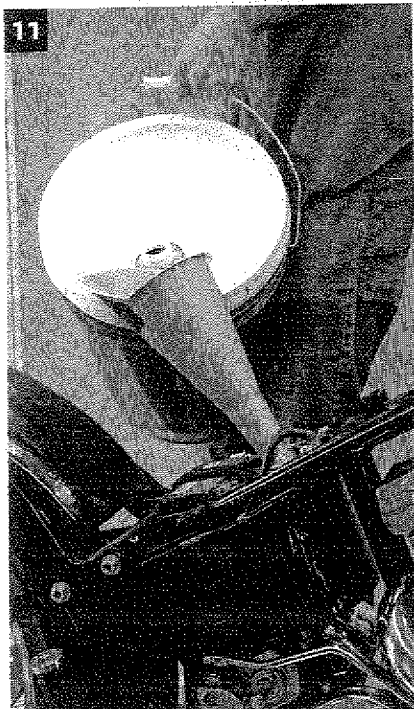


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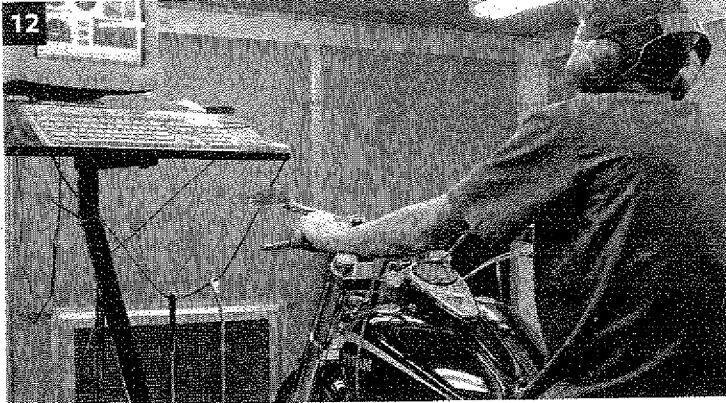
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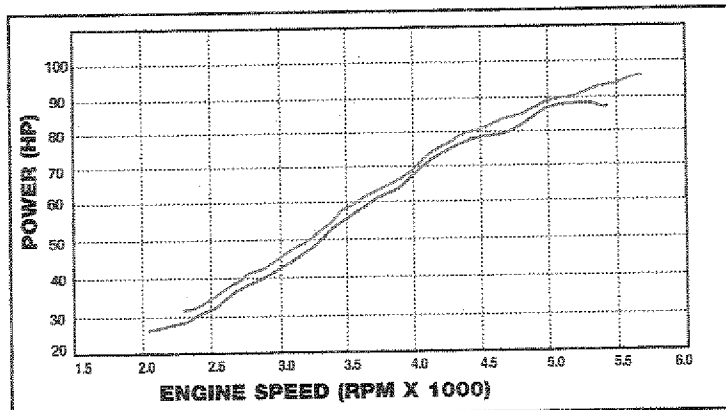
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Then he filled up the oil tank with Pure Power V-Twin 15W-40 oil, started the bike, and let it idle for a minute or two. Then he rechecked the oil and topped it off until it was full.



We made a few more passes on the dyno with the Pure Power filter and oil and were pleased with the results.



We picked up almost 5 horsepower at the rear wheel on a hopped-up bike. For around \$200.00, it's hard to beat this kind of HP gain!

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EXHIBIT B

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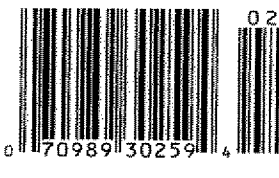
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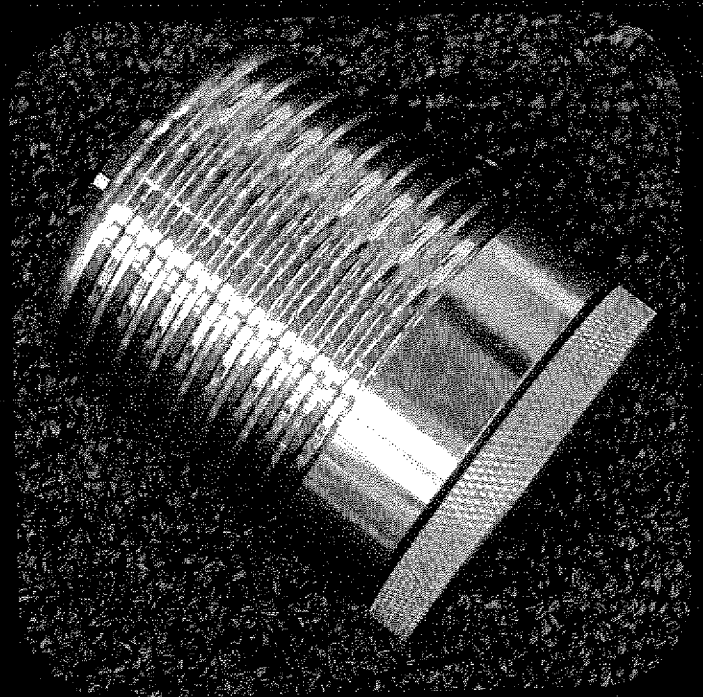
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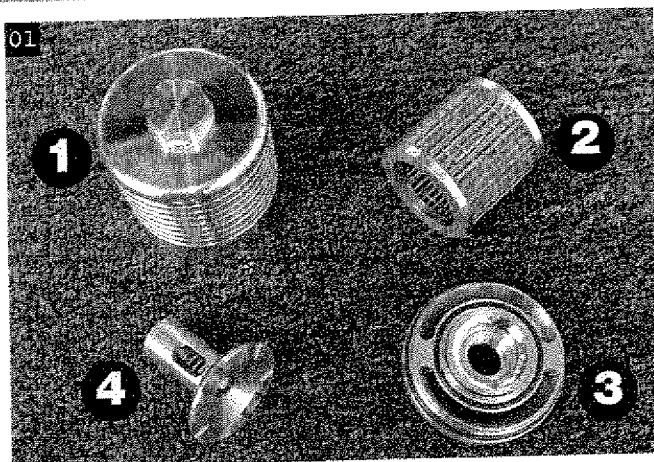
We admit that we were very skeptical about this filter at first. It sounds impossible, but when Kelly Tidwell, owner of Pure Power Lubricants, described an oil filter he invented that could develop horsepower and torque increases of up to 15 percent, we had to see it for ourselves. But that's not all this oil filter does—in fact, this is probably one of the most interesting new

products we've come across this entire year. Not only does it reduce parasitic drag created by a choked-up oil pump and filter, but it is also reusable and can be washed clean in soap and water (think K&N air filter). Also, the machined fins create a larger surface area than a stock filter, it flows a larger amount of oil more quickly than stock, and it's constructed from billet alu-

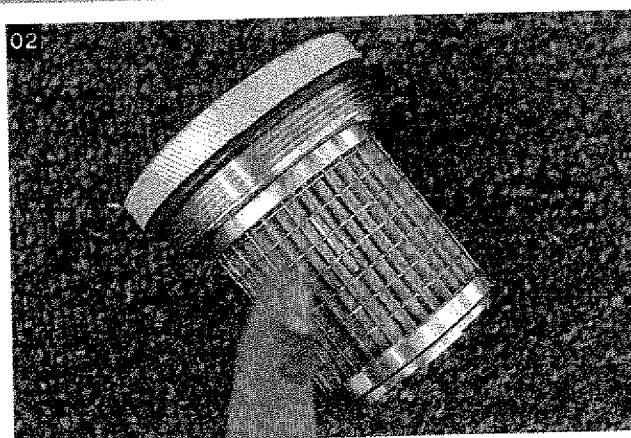
minum instead of tin. It also acts as an oil cooler and will reduce oil temperature by 10 percent. You'll never have to buy another oil filter!

Testing a product like this required a dyno, so we went over to Ed Syer's shop, HB Hogs and Choppers, in Huntington Beach, California, to prove what Pure Power's filter was capable of. **stc**

BY GREG FRIEND — PHOTOGRAPHY BY GREG FRIEND



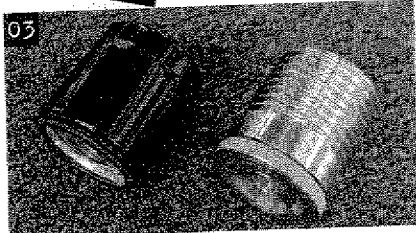
We disassembled the filter to show what it's constructed of: 1. outer housing, 2. stainless-steel filter element, 3. filter base, and 4. spring-loaded bypass check ball.



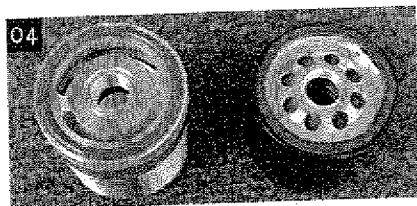
Also inside is a rare-earth magnet, about as small as your fingernail but strong enough to lift 2 pounds of iron-based metal. Even the internal O-rings are high-quality; each ring is made from oil- and gas-resistant Viton that will positively seal for the life of any bike.

TECH

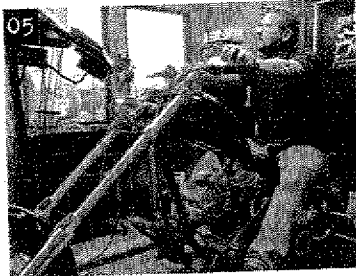
REUSABLE OIL FILTER



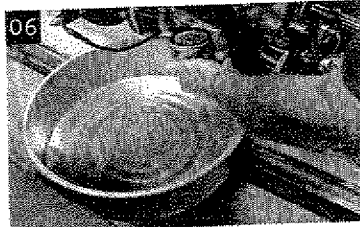
Here's a comparison of a stock filter (left), and Pure Power's filter (right). It's about the same size as a stock filter, but is far more attractive and functional. The machined fins on the Pure Power filter almost double the surface area of the stock filter, eliminating the need for an external oil cooler.



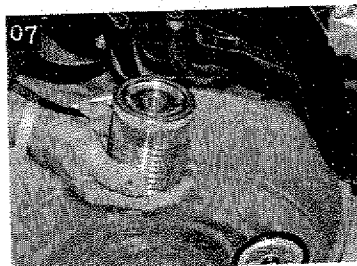
Oil is able to get in and out of the Pure Power filter faster than a stock filter—here you can see how much larger the openings are. A larger hole means faster oil flow with less resistance.



Once we arrived at HB Hogs and Choppers, Ed grabbed a custom chopper built with a bone-stock S&S 93ci shovelhead and rode it onto the dyno for some baseline runs with a stock oil filter.



Once the bike had cooled after the initial dyno runs, he drained the old oil and removed the stock filter.



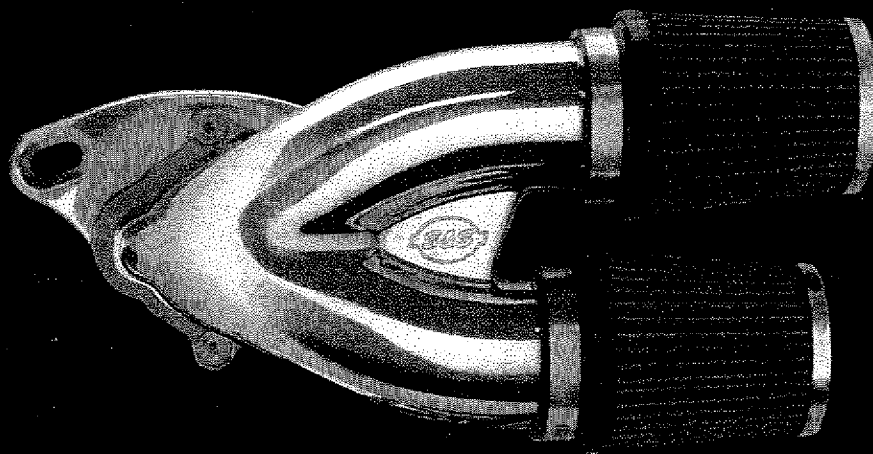
Pure Power's oil filter will screw right onto most applications, just like a stock filter.



Let's just say that Pure Power does not have much faith in typical oil, and suggests its own 15/W40 instead of anything on the market, with one exception: Shell's Rotella 15/W40 commercial-grade oil. The engineers at Pure Power claim that most oil is made from the cheapest petroleum available—that way large companies can make a few extra bucks off the consumer. Pure Power has a name to make for itself and takes pride in the fact that its oil (and other lubricants) is the best on the market (check the company's website, www.gopurepower.com, for a breakdown of its top-of-the-line lubricants).

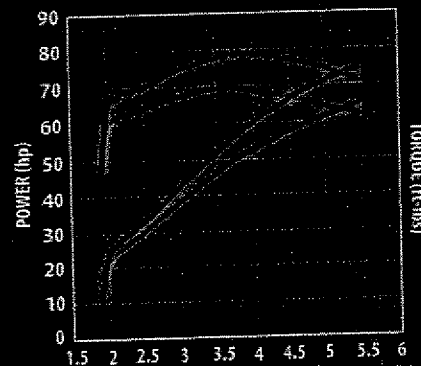
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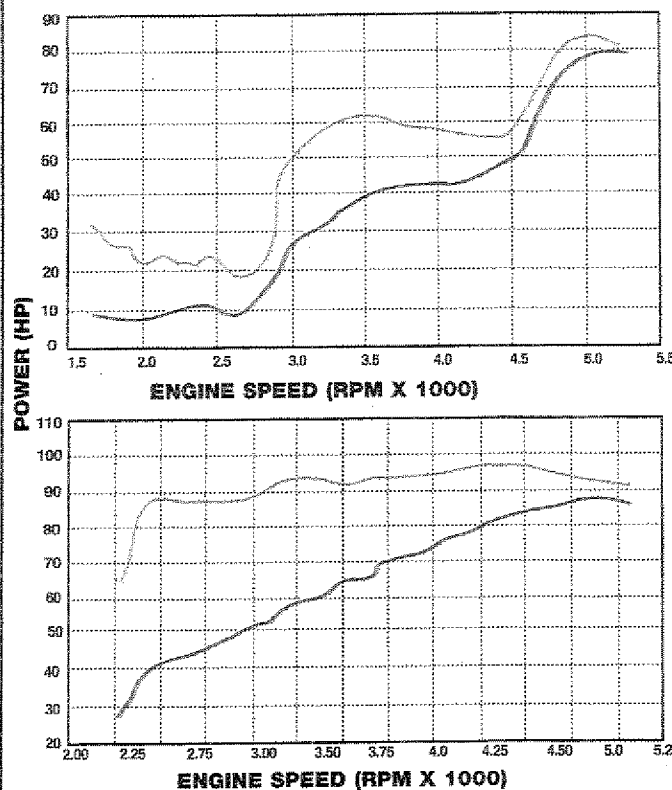


Ed and Kelly added about 4 quarts of Pure Power's V-Twin oil to the oil bag. Then we ran the bike on the dyno again to see what changes the new oil and filter would make.

SOURCES

HB HOGS AND CHOPPERS
(714) 891-7267
www.hbhogs.com

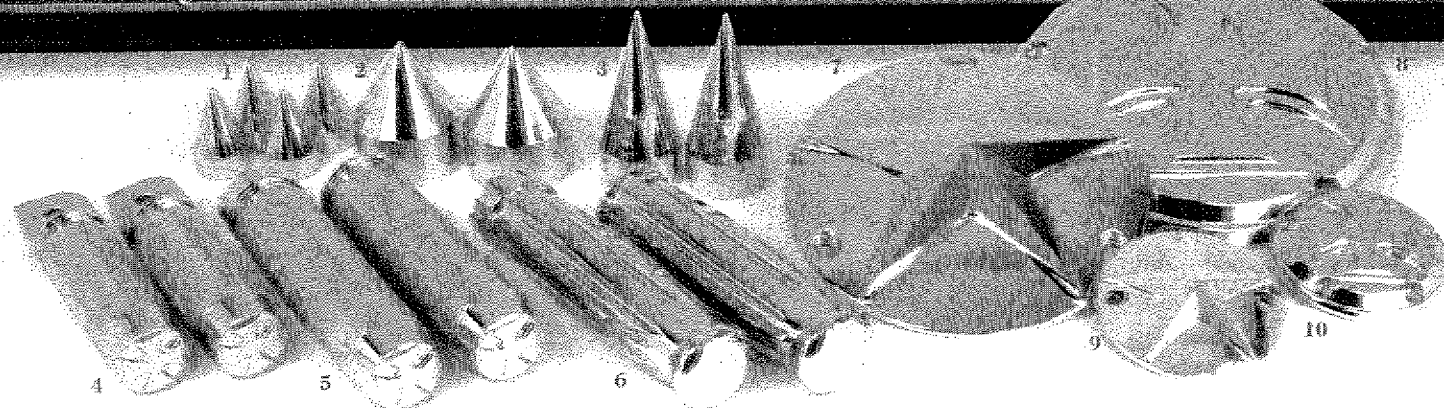
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The results of the initial run with stock oil and stock filter were 79 hp and 85 lb-ft of torque.

After adding Pure Power's oil and filter, the performance numbers shot up to 87 hp and 96 lb-ft of torque! The bike was never taken off the dyno, and only the oil and oil filter were changed—no adjustments were made, and no tuning whatsoever was involved!

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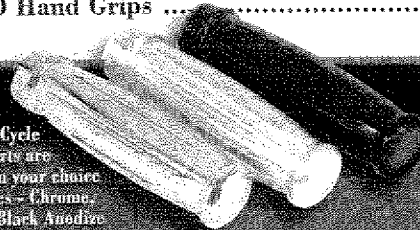


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EXHIBIT C



May 22, 2006

PRESENTED IN
2006

Dear Kelly:

Subject: FAA Certification Pure Power Oil Filter

FAA approval project began June 5, 2005

FAA Requirement:

- Detailed test plan included 300 hours of lab and engine dynamometer tests with hourly test log of engine oil pressure, temperature, and operation parameters.
- Engine dynamometer FAA conformity inspection of all oil filter parts per drawing before each performance filter media cleaning and dynamometer test at 25 hour intervals.

Flight test:

- Flight test included 150 hours with the aircraft operating in normal flight conditions. The oil filter was inspected and cleaned in 25 hour intervals.
- Spectrographic oil analysis every 25 hour flight hours with photographic evidence that the filter was collecting contaminants.

Summary:

The entire set of tests have been completed with improvements in oil pressure and 6 degrees cooler. Challenger has six additional aircraft flying more hours of performance evaluation beyond FAA requirements. The Pure Power cleanable oil filter is a revolutionary leap in aviation technology from disposable oil filters littering our landfills, to lifetime cleanable filters that are environmental friendly. We expect FAA approval with 30 days.

Regards,


Charles Rocco
President
Challenger Aviation Products, Inc.

EXHIBIT D

United States of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SE02352CH

This certificate issued to Challenger Aviation Products, Inc.
3530 Lightner Road
Vandalia, OH 45377

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 33 of the Federal Aviation Regulations. (The Type Certificate Data Sheet No. AML SE02352CH for complete certification basis)

Original Product - Type Certificate Number:

Make:
Model:

See AML SE02352CH for aircraft engine make and model eligibility.

Description of Type Design Change:

Installation of a cleanable oil filter assembly in accordance with Challenger Aviation Products, Inc. Installation Instructions #1124, Revision N/A, dated April 25, 2006 or later FAA Approved revision.

Limitations and Conditions:

1. Compatibility of this design change with previously approved modifications must be determined by the installer.
2. Use of Challenger Aviation Products, Inc. Inspection and Cleaning Instructions #1125, Revision N/A, dated April 25, 2006 or later FAA Approved revision is required.
3. A copy of this Certificate must be maintained as part of the permanent records for the modified aircraft.
4. Eligible aircraft engines must have the appropriate spin-on oil filter adapter installed to accept this cleanable oil filter assembly.
5. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: July 18, 2006

Date received:

Date of issuance: November 17, 2006

Date forwarded:



By direction of the Administrator

(Signature)
Theodore D. Kynicki Jr.
Propulsion Branch
Chicago Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

FAA FORM 3330-2 (10-60)

PAGE 1 of 1 PAGES

THIS CERTIFICATE MAY BE TRANSMITTED IN ACCORDANCE WITH FAR 23.47.

EXHIBIT E

ENGINE MASTERS.COM

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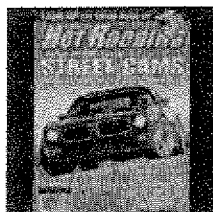
With more excitement, action, and visibility than ever before, the 2006 Jeg's Engine Masters Challenge ended up being the best year on record for this legendary event. Of the 29 teams that competed, only the top six were paid prize money. These top engines were torn down after the final dyno pull, and our judges checked every component to ensure the legality of the parts and build. Interested in what parts contributed to a winning combination? We list them below, for each of our finalists:

B.E.S. RACING (1st place)

Bearings:	Clevite 77
Camshaft:	Comp Cams
Cam Drive Belt:	Jesol
Carb:	Holley
Carb spacer:	Wilson Manifolds
Connecting Rods:	Eagle Specialty Products
Crankshaft:	Eagle Specialty Products
Cylinder Heads:	CHI Heads
Engine Block:	World Products
Fasteners:	ARP
Flywheel:	Performance Racing Warehouse SFI
Gaskets:	Federal Mogul Felpro
Ignition System:	MSD
Mufflers:	Magnaflow
Oil:	Royal Purple
Oil Filter:	Pure Power! Inc.
Oil Pan:	Stef's Performance Products
Oil Pump:	Melling M-Select
Pistons:	Ross Racing Pistons
Piston Rings:	Federal Mogul Speed Pro
Rocker Arms:	Jesol
Spark Plug Wires:	MSD



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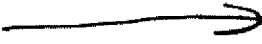
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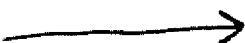
Valves:	Ferrea Racing Components
Valve Springs:	Manley
Water Pump:	Mezeire

JON KAASE RACING (2nd place)	
Balancer:	TCI Automotive
Camshaft:	Comp Cams
Carb:	Barry Grant/Demon
Carb Spacer:	Wilson
Coatings--Thermal:	Swain Tech Coatings
Crankshaft:	Bryant Racing
Fasteners:	ARP
Flywheel:	Performance Racing Warehouse
Gaskets:	Federal Mogul Felpro
Ignition System:	MSD
Intake Manifold:	Edelbrock
Mufflers:	Magnaflow
Oil:	Royal Purple
Oil Filter:	Pure Power! Inc.
Oil Pan:	Stef's Performance Products
Oil Pump:	Melling M-Select
Pistons:	CP Pistons
Piston Rings:	Federal Mogul Speed Pro
Rocker Arms:	Crane
Spark Plug Wires:	MSD
Valves:	Ferrea Racing Components
Valve Springs:	Manley
Water Pump:	Meziere

RHP/PER/AD Performance (3rd Place)	
Bearings:	Clevite 77
Camshaft:	Comp Cams
Carb:	Holley
Connecting Rods:	Eagle Specialty Products
Crankshaft:	Eagle Specialty Products
Cylinder Heads:	CHI Heads
Fasteners:	ARP
Gaskets:	Federal Mogul Felpro
Ignition Systems:	MSD
Mufflers:	Magnaflow
Oil:	Royal Purple



Bearings:	Clevite 77
Camshaft:	Comp Cams
Carb:	Holley
Carb Spacer:	Wilson
Connecting Rods:	SCAT
Crankshaft:	SCAT
Engine Block:	World Products
Fasteners:	ARP
Flywheel:	Performance Racing Warehouse
Gaskets:	Federal Mogul Felpro
Ignition System:	MSD
Mufflers:	Magnaflow
Oil:	Royal Purple
Oil Filter:	Pure Power
Oil Pan:	Moroso
Oil Pump:	Melling M-Select
Pistons:	JE Pistons
Piston Rings:	JE Custom
Rocker Arms:	Jesel
Spark Plug Wires:	MSD
Timing Belt/Chain:	Jesel
Valves:	Ferrea Racing Components
Valve Springs:	Manley
Water Pump:	Meziere



SCHOOL OF AUTOMOTIVE MACHINISTS (6th Place)	
Balancer:	TCI
Bearings:	Clevite 77
Camshaft:	Comp Cams
Carb:	Holley
Carb Spacer:	Wilson Manifolds
Cylinder Heads:	CHI Heads
Engine Block:	World Products
Fasteners:	ARP
Flywheel:	Performance Racing Warehouse
Gaskets:	Federal Mogul Felpro
Ignition System:	MSD
Intake Manifold:	Edelbrock
Mufflers:	Magnaflow
Oil:	Royal Purple
Oil Filter:	Pure Power! Inc.
Oil Pump:	Melling M-Select

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Balancer:	TCI
Bearings:	Clevite 77
Camshaft:	Comp Cams
Carb:	Holley
Carb Spacer:	Wilson
Connecting Rods:	SCAT
Crankshaft:	Eagle Specialty Products
Fasteners:	ARP
Flywheel:	Performance Racing Warehouse
Gaskets:	Federal Mogul Felpro
Ignition System:	MSD
Mufflers:	Cherry Bomb
Oil:	Royal Purple
Oil Filter:	Pure Power! Inc.
Oil Pan:	Moroso
Oil Pump:	Melling M-Select
Pistons:	Ross Racing Pistons
Piston Rings:	JE Pistons
Rocker Arms:	Jesel
Spark Plug Wires:	MSD
Timing Belt/Chain:	Jesel
Valves:	Ferrea Racing Components
Water Pump:	Meziere

PERFORMANCE UNLIMITED (5th Place)

Balancer:	TCI
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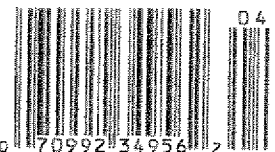
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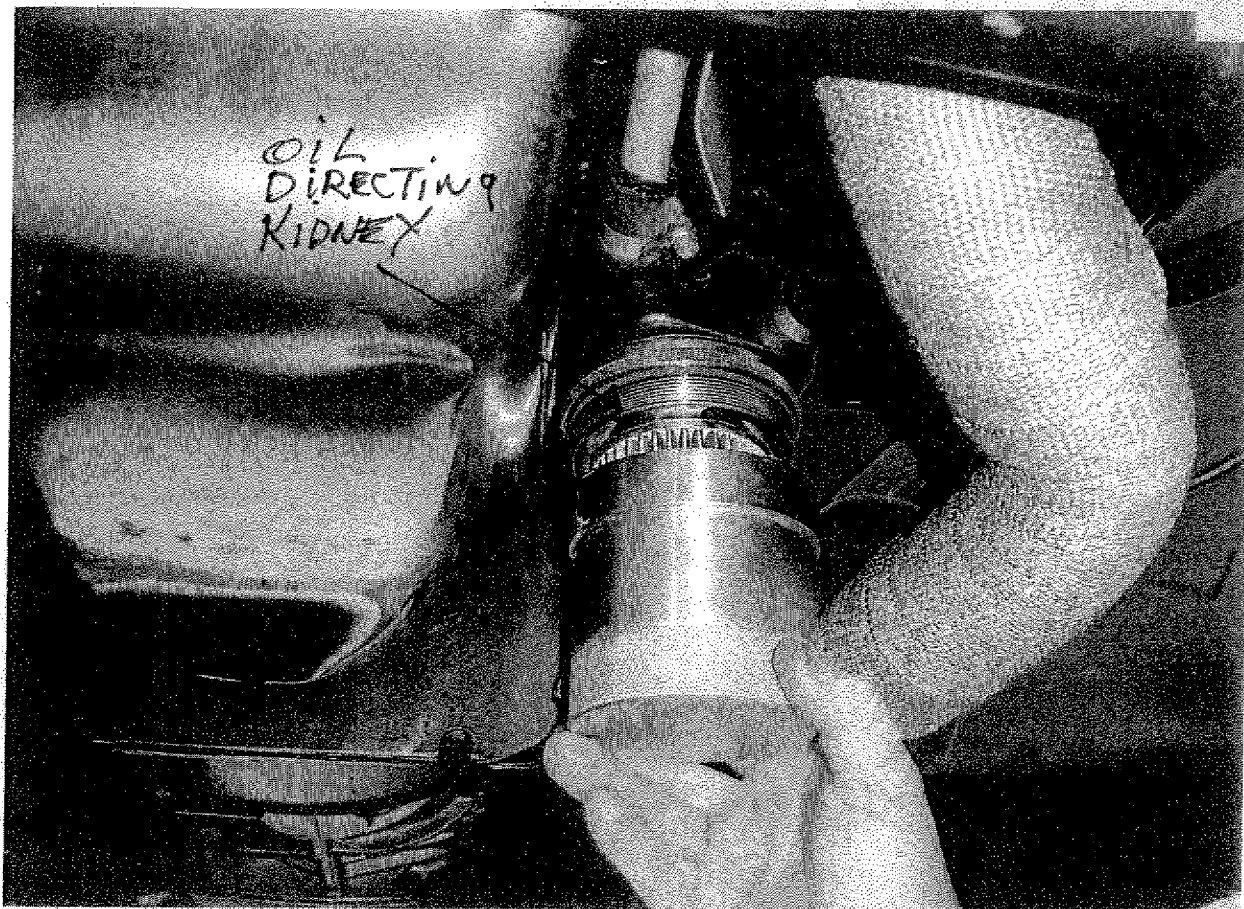
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PURE POWER TRIP

PROJECT SHARK ATTACK GETS HIGH-TECH FILTERS

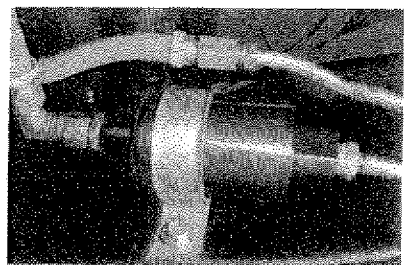
TEXT AND PHOTOS BY CHRIS PETRIS AND HOPE PETRIS

Project Shark Attack's concept from the beginning was to build a dependable, easy-to-maintain Corvette that would last for many miles. When we heard about the Pure Power line of filters, we decided to investigate the claims.

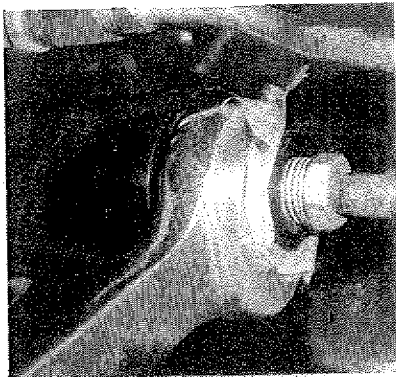
The concept is definitely sound: cleaner oil providing longer oil change intervals. Environmentally, the cleaner oil would reduce exhaust emissions, and why throw more junk into the local landfill? Let's face it, how many oil filters are recycled

by the weekend warrior changing his oil? Repair shops have to pay for recyclers to pick up the crushed oil filters. Do-it-yourselfers can dump the empty oil filter in the trash can legally, at least in Florida.

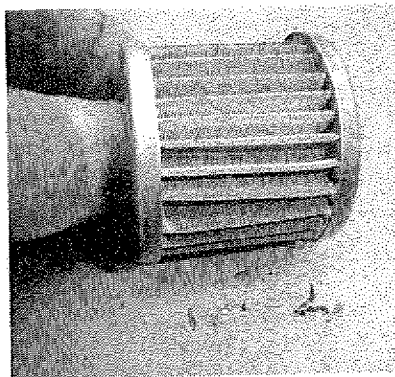
The extended drain interval with the Pure Power oil filters means less oil to buy and recycle. We installed the Pure Power oil and fuel filter with ease, and no modifications are necessary. Our initial oil change was done at 750 miles on the fresh engine, and we expect to go 6,000 miles on the next change. Although we



An OE '85-'96 Corvette fuel filter strap is used to hold the Pure Power fuel filter (PN 7241) in place on Project Shark Attack's fram-rail. The filter may look out of place on the PSA fram-rail, but it was necessary to place it here due to the Holley fuel-injection system. Before we started the filter removal, we removed the fuel pump fuse and ran the engine to eliminate any fuel pressure.



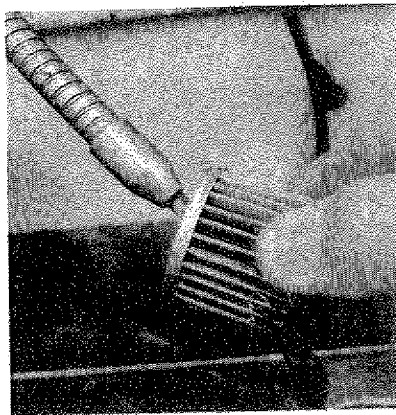
2 The billet-aluminum filter housing can be damaged with conventional wrenches, so we applied some duct tape to our wrench flanks to protect the anodized finish and prevent gouges. I prefer the wrench with the tape over a thin A/N wrench that can slip. The fittings shouldn't be extremely tight, but they should be tighter than a typical A/N all-aluminum connection.



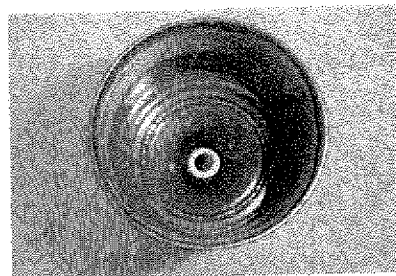
4 We were surprised by how much debris was in the fuel filter and how easily it came out when we tapped the housing on the bench top. The debris was left over from the engine assembly, even though we carefully blew out all the lines during the assembly of PSA. The T-304 stainless steel 45-micron filter media won't rust if water finds its way into the fuel system.



3 Once the filter is removed, the housing is securely mounted in a vise with rubber protector pads. The wrench we used for the fittings is used to loosen the filter housing for disassembly. Once the housing is loosened counterclockwise, it unscrews easily.



5 The filter media is rinsed with clean solvent from our wash tank, then blown out with compressed air. We applied the compressed air from the inside of the filter media blowing out any trapped particles. The Pure Power filter eliminates the endless stream of hydrocarbon-tainted metals to be recycled or dumped at the local landfill.



6 At the bottom of the filter housing rests a Viton O-ring that seals the filter cartridge to the housing. The O-ring fits in a groove, so be sure it's in the place and is not torn. A torn O-ring would allow debris to bypass the filter.



7 We applied a coating of assembly grease to the Viton O-ring that seals the housing assembly. A light mineral-based oil or grease should be used to avoid tearing the O-ring seal. The Viton O-ring material is tough, but can be damaged from dry assembly.



8 This is the assembly sequence of the fuel filter media and spring. Once it's assembled, we placed the filter housing in the vise with rubber protected jaws to tighten it properly. The O-ring does the sealing, so the housing must be snug to prevent housing damage.

see new Corvettes with oil drain intervals at 10,000 miles on highway cruisers, it will be hard to go that far with PSA, at least not yet. We would have changed the oil at 3,500 miles no matter what in the past, so we have doubled the mileage so far. The lower part of the housing is machined for good grip during removal and replacement.

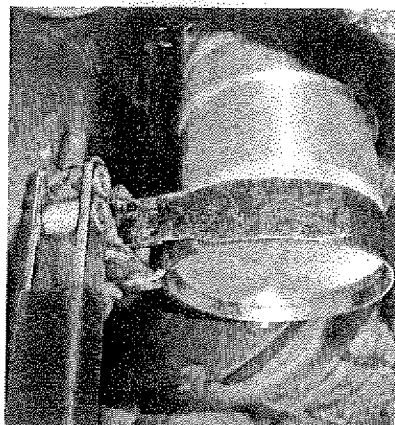
The Pure Power fuel filter is a direct replacement for GM L-98 and LT1 Tuned Port engines. The fuel filters billet housing is overkill for the

45-psi fuel pressure typically used in the fuel-injected engines. Some of the supercharged and nitrous-equipped engines increase the fuel pressure to 100 psi or higher, but this filter can handle it and then some. The high flow rate will ensure adequate fuel flow to an enhanced-horsepower L-98 or LT1 engine.

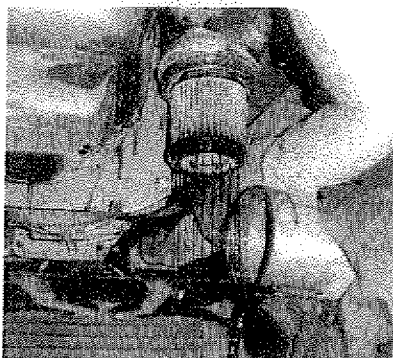
Another benefit is you can readily see what's in the fuel filter. A little water and rust slurry can do severe damage to the fuel injectors. Of course, the filter must be

disassembled to check for water, but it beats cutting open the original canister filter with a hacksaw. If you unfortunately get some water in the fuel tank, you can service the fuel filter and check the progress of the dewatering.

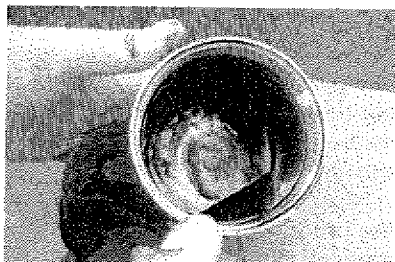
To date we have 8,000 miles on PSA, and we like what we see. The oil filter is pricey at \$199.95, but consider oil change intervals of 3,000 miles requiring 34 oil filters over the course of 100,000 miles. Top quality oil filters cost approximately \$6 each, equaling



9 A regular oil-filter strap wrench works well when removing the Pure Power billet oil-filter lower housing. The billet-aluminum oil-filter housing provides added protection from debris that would destroy a normal throw-away oil filter. This is certainly a fact to consider because of the low stance on the typical Corvette and the catastrophic engine damage that could occur.

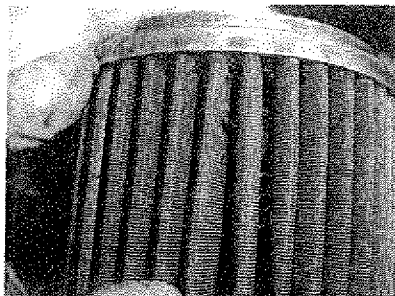


10 Once the oil filter housing is unscrewed, the filter media is exposed for removal. It's a good idea to let the oil drain out of the filter media before pulling the filter off the block adapter plate.

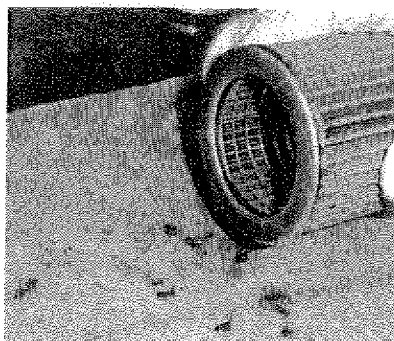


11 The billet oil filter can is dirty and has some fine metallic paste at the bottom. Some of this paste is from the Moly assembly lubricants used during assembly. It's a good idea to check and see if there is any grit or metallic particles with a magnet before washing the housing out. If you find metallic particles, an oil sample should be sent for testing to define if there is a more serious internal problem.

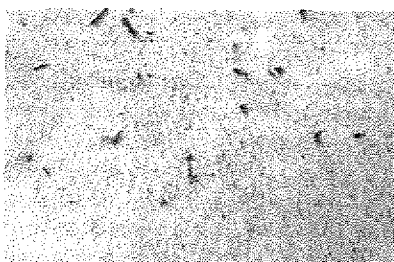
the cost of the Pure Power oil filter assembly using the 100,000 mile figures. Then figure the cost of the additional oil used for the old throwaway filters, and the



12 As you can see, there is quite a bit of debris in the oil filter media pleats. This is to be expected with the recently built engine. This is a good thing as the Pure Power filter media is doing the job it was designed to do.

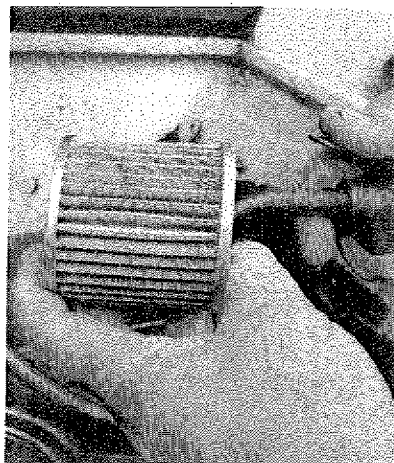


13 Just as we expected, the oil filter media was full of trash and debris when we flushed the filter with solvent. We tapped the filter media lightly while rinsing to remove the debris. Just like the fuel filter, we would be throwing the oily waste away in the local landfill.

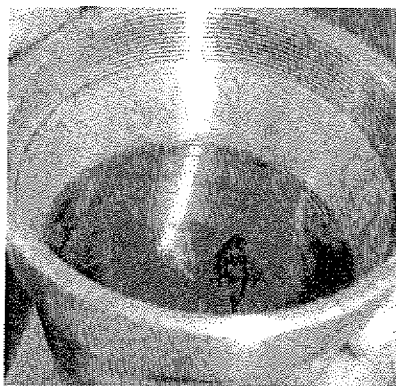


14 This is a piece of a clean white T-shirt that we used to clean the oil filter. The debris particles are large enough to be noticeable, but the minute pieces of metallic grit, which are hard to see, can do severe damage to the lower end of the engine. The fibrous pieces are most likely shop rag lint from engine assembly. This is why internal engine parts should always be blown off with compressed air, not wiped with a rag.

Pure Power oil filter is a bargain. Plus, you will reduce the trips to the used oil recycling facility, saving both time and gas money. What a deal! **CF**



15 Blow the filter media out from the inside to make sure all the debris is removed. This blows the debris out of the media, not deeper into it. Check the O-rings for damage on the oil-filter adapter plate before installing the filter. Lube the O-ring before filter installation for long O-ring life.



16 Everything is now clean and ready for re-assembly. Just like a disposable filter, we added fresh oil to the removable housing so the engine doesn't have a dry start. We filled the filter half-way with oil. Adding more oil than half-full would create a mess during assembly.

SOURCE

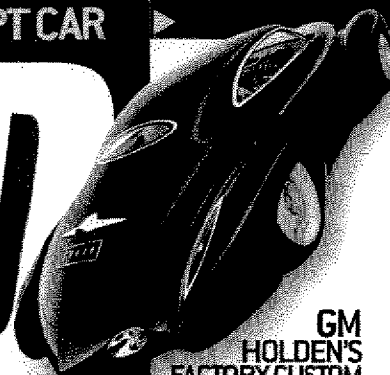
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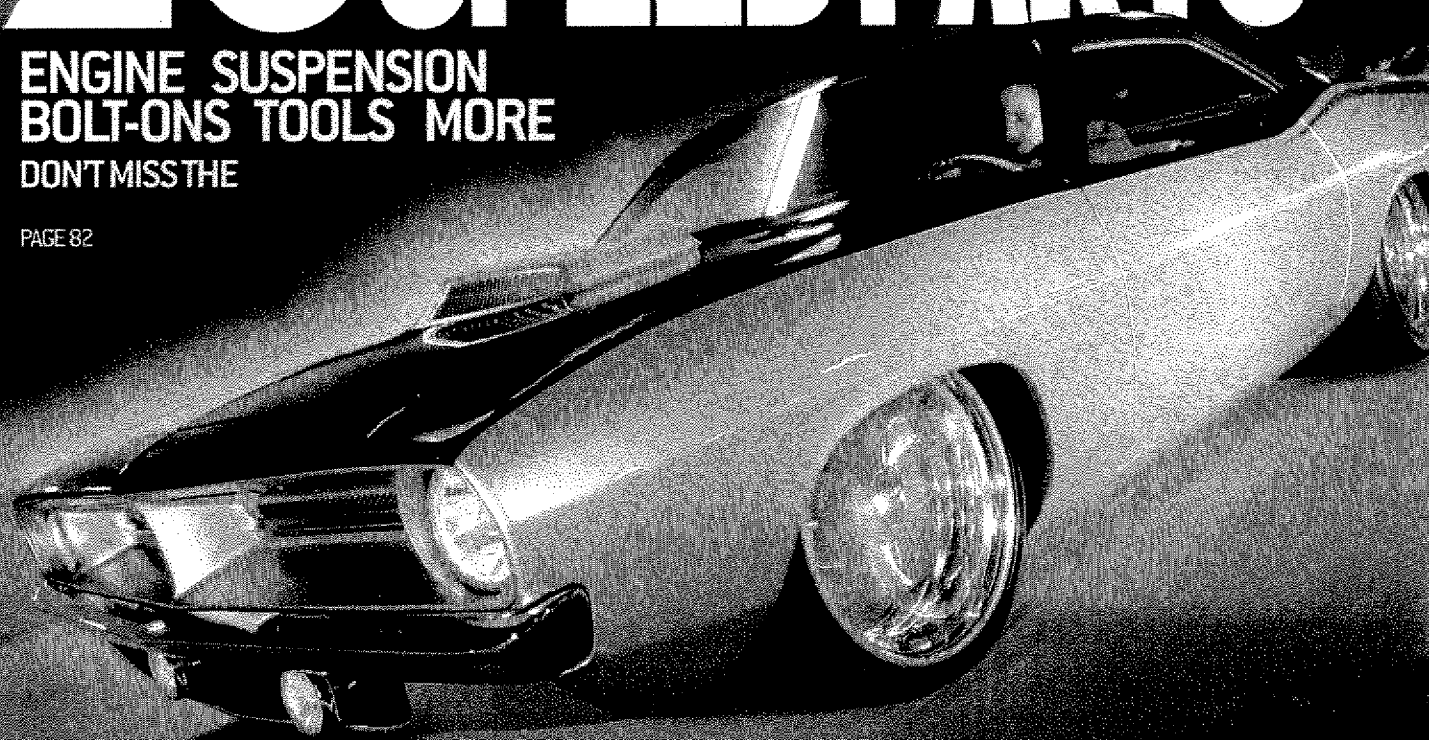
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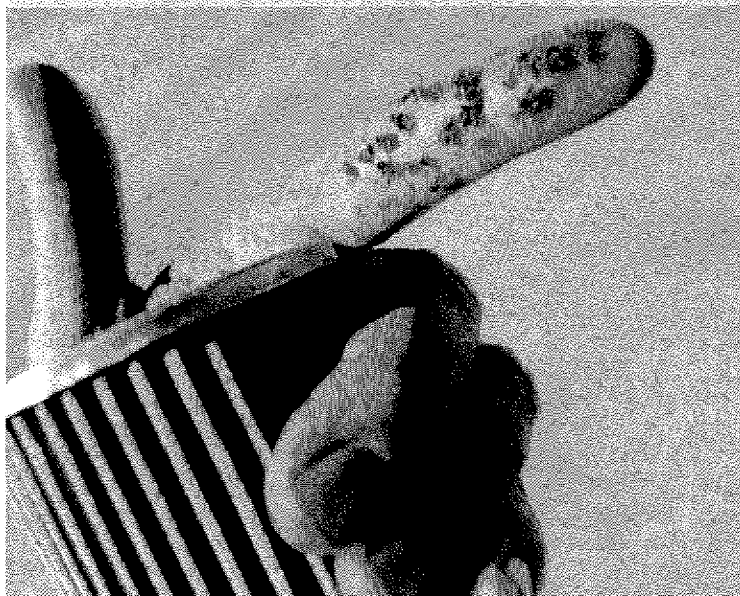
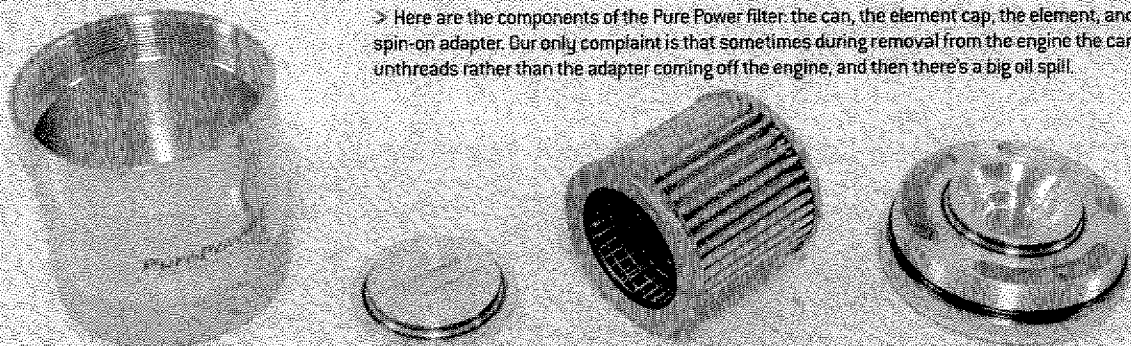
TEST AND TUNE

QUICK TEST THE PURE POWER OIL FILTER

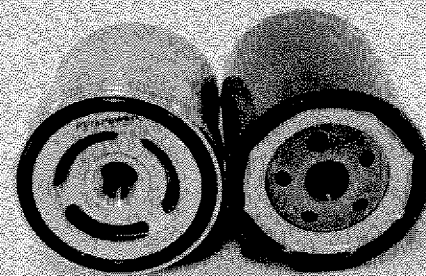
Here's an oil filter that we're happy to pay \$200 for. It's the Pure Power Lifetime Filter System from a company known for performance lubricants. It's a convenient spin-on-style filter that's available for most engine applications, but it features a removable, cleanable stainless-steel filter element captured in a billet-aluminum housing that's burstproof to 1,000 psi and leakproof with Viton seals. Remote filter setups are also available.

The immediate benefit is that you can take it apart, clean it, and reuse it so you never have to buy a filter again. However, we also see it as a valuable engine diagnosis tool, as it's easier than cutting apart a conventional filter to see if there's any bearing material or other badness circulating in the engine. Also, according to Pure Power, its element is 90 percent more efficient at removing particles of 10 microns or smaller. Pure Power says that, while some filters claim to remove smaller particles, the elements in those filters are so restrictive that the oil cannot pass through them—therefore, the oil is not filtered because the bypass is constantly open. In the Pure Power filter, all the oil must pass through the element. We've used them enough now on the dyno and in our Bonneville race car that we believe in them. —DAVID FRISVOLD

> Here are the components of the Pure Power filter: the can, the element cap, the element, and the spin-on adapter. Our only complaint is that sometimes during removal from the engine the can unthreads rather than the adapter coming off the engine, and then there's a big oil spill.



> Kelly Tidwell of Pure Power warned us of this. For the first inspection, the stainless-steel element will likely collect a lot of fuzz that was shed by the furry elements of typical throwaway filters. That's stuff that won't get caught by the Filter Mag we've been using. This is just some of the crud that was trapped by the Pure Power filter after we first used it on the 492ci big-block that we tested last month.



> In this comparison to a standard throwaway filter, you can see that the oil-entry slots on the Pure Power filter can flow a lot more volume than the smaller holes of the regular setup. Pure Power claims that between this and the free-flowing element, the billet filter can process double the oil volume.

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*1 of 1: '04 Indy Pace Car Replica
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C4 Tech: C5-R Fixed-Headlight Install*

The Old Dog Meets New Tricks!

The last oil filter you will ever buy

BY JAMES MILES

We've seen a lot of trick items on the market. Some work, while a few do nothing more than look pretty. The yearly SEMA show,

held in Las Vegas, is the premier aftermarket showcase where both extremes are in full view (we reported on several such displays in our June issue).

Pure Power of Huntington Beach, California, was one of the many businesses that made its presence known at SEMA and was more than happy to talk shop with Team VETTE about one of its many products.

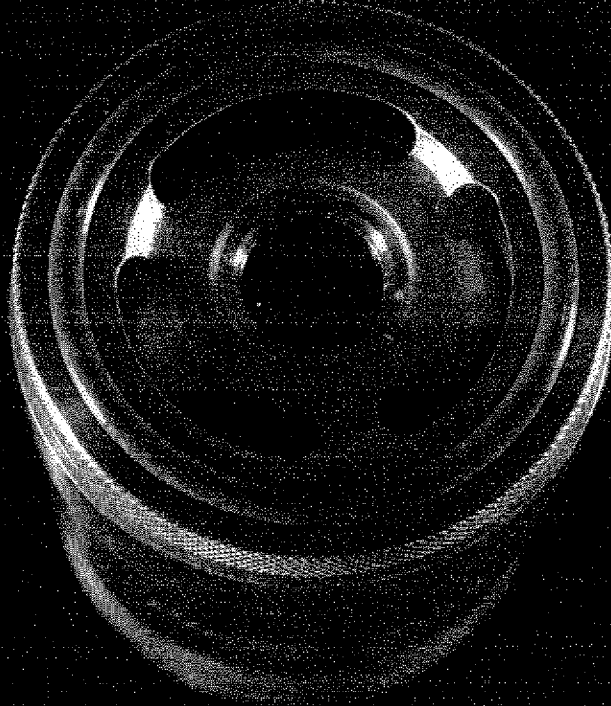
Touted as a "Lifetime Oil Filter System," Pure Power's undercar can do what other filters do not: its job. "How can that be?" you may ask. Your Vette really does filter its oil, just not in the literal definition of the word. As your choice of synthetic- or mineral-based liquid finishes each pass, it flows across—not through—the media packed inside each filter. Sometimes,

this filter catches rogue particles, sometimes not. Given enough time, this gunk (caught to begin with) can escape and rush right back into your engine block, adding to engine, seal, and component wear. Pure Power's filter, on the other hand, forces your used oil through a fine metal mesh which traps all debris 30 microns and smaller. For reference, a human hair is 100 microns in diameter, while a particle 10 microns in diameter is the smallest size visible to the human eye. So, needless to say, this is going to get your fluid pretty clean (as well as keep it clean) in the first pass. Cleaner oil means the engine doesn't have to run as hard, so technically, it will need less gas at the pump and produce fewer emissions. Environmentally speaking, this also means less waste in the form of spent filters.

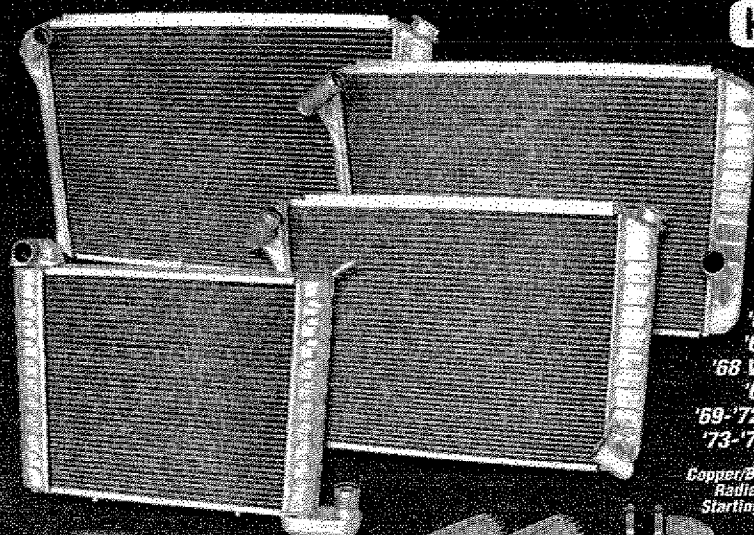
With just a twist of the wrist, the filter separates from its sleeve. Now exposed is a fine metal mesh made of a deep-pleated, duplex-woven T304 stainless steel. This will stop a wayward 30-micron particle with no problem. For reference, a human hair is 100 microns in diameter, while a particle 10 microns in diameter is the smallest visible to the human eye.

Speaking of less waste, the Lifetime Oil Filter System is just that—good for a lifetime. Since this system is cleanable, this could very well be the last oil filter you buy. During each oil change, just unscrew, drain, and open. After you've finished marveling at the dirt floating around the inside of the stainless-steel cup, clean with soap and water or a parts washer, let it dry, and it's ready for reuse. How can you go wrong? Team VETTE decided we couldn't and picked up a piece for review.

The filter is available for all generations of Corvettes, so we settled on our '87 "Son of Zombie" as a test bed. After all, you can't kill the undead—but you can resurrect them as yet another VETTE project car. Since we had changed the oil the day before the item arrived, we felt this would be a good chance to prove the usefulness of a trick filter using clean oil. Installation is just as simple as any other Fram or Mobile One filter. After we finished putting some time on the engine, we waited for the L98 to cool down and emptied the filter. How well did it work? Check out the photos and sidebar. But if you want an actual quote, all we can say is, "Wow!"



Installation is just as simple. Fill with clean oil, smudge a drop over the Viton seal with your finger, and snug against the engine block after cleaning the mounting surface.



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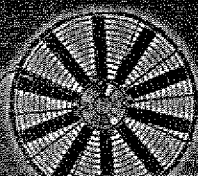
'55-'59 V8: Copper/Brass Only, (100751)
'60-Mid '61 V8: Copper/Brass Only, (10264)
Mid-'61-'62 V8: Copper/Brass Only, (10285)
'63-'72 V8: S/B-Copper/Brass & Aluminum, (10400)
'65-'67 V8: 427-Copper/Brass & Aluminum, (10810)
'68 V8: 327 To 427-Copper/Brass & Aluminum, (10810)
'69-'72 V8: 350-Copper/Brass & Aluminum, (11533)
'69-'72 V8: 427, 454-Copper/Brass & Aluminum, (11541)
'73-'76 V8: 350/454-Copper/Brass & Aluminum, (12400)

Copper/Brass Radiators Starting At,

\$336.00

Aluminum Radiators Starting At,

\$476.00



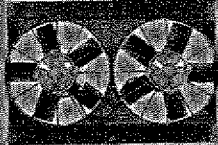
Spal Electric Fan Starting At **\$69.95**



Dual Pass Trans Coolers Starting At, **\$76.00**

Cool Flex Radiator Hose, The Ultimate Radiator Dress-Up.

Starting At, **\$43.00**

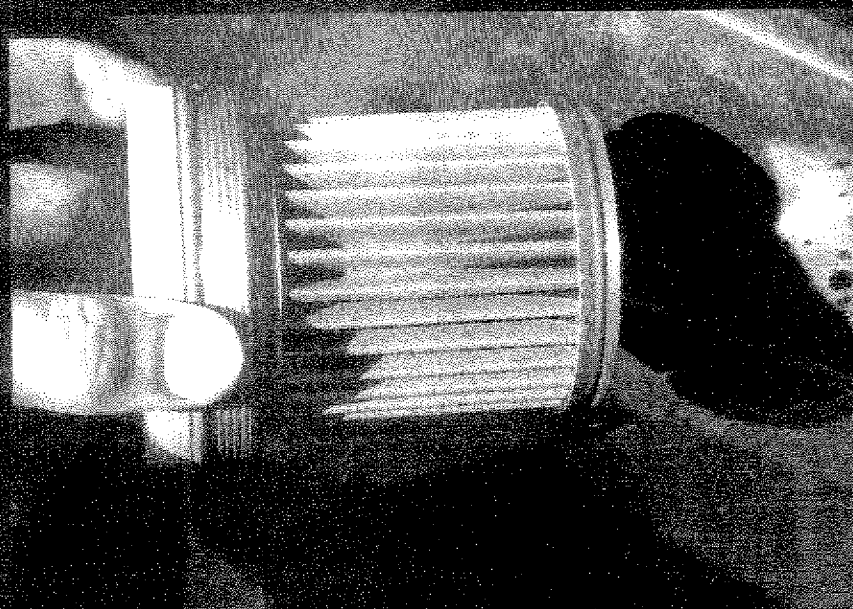


Men's & Ladies Corvette Watches Starting At, **\$30.00**

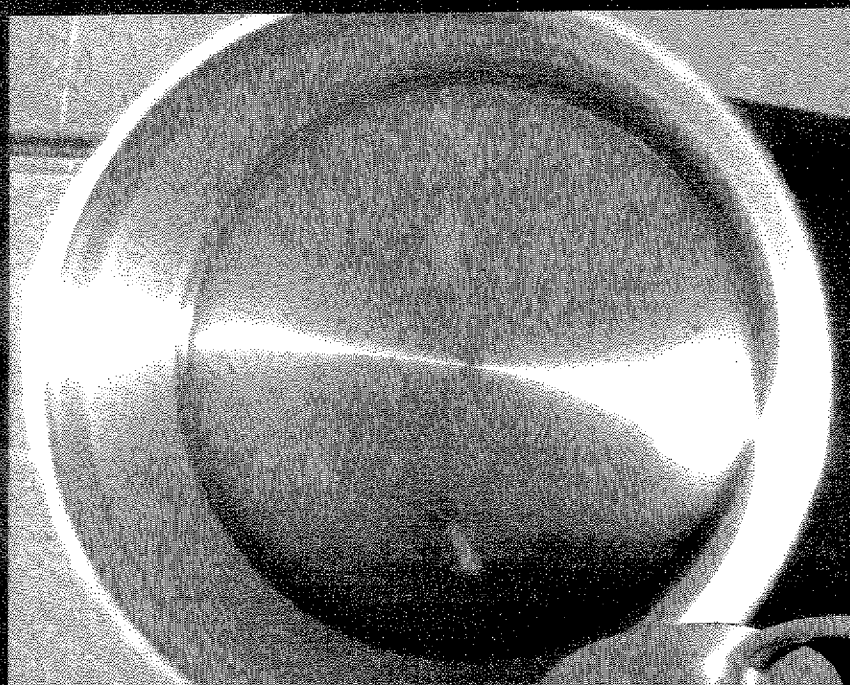
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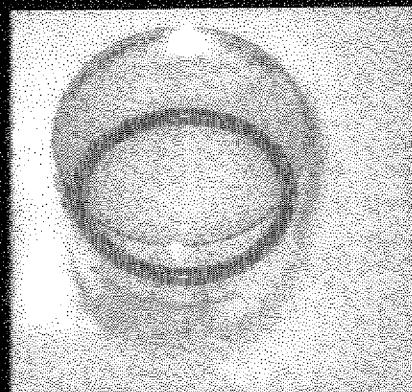
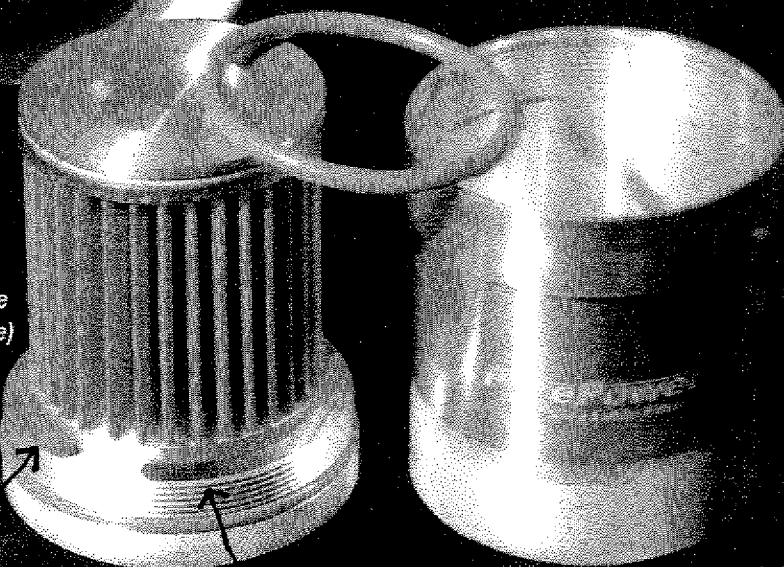


The fine metal mesh looked pretty greasy and dirty...



▲ ...while the inside of the can was coated in a cornucopia of debris. This was with new, clean oil, too. We can only imagine what a week's worth of use (suggested before the first cleaning) would look like.

► After cleaning the filter and its Viton seals, let the whole assembly sit out in the sun (on a clean surface) while prepping the car for its replacement. After cleaning the mounting surface, we were ready to put Pure Power's filter back into service and head down the road.



After the test, we tried out the cleaning procedure outlined by Pure Power. It's as simple as soap and water, or a parts washer.

SOURCES

Pure Power

15751 Chemical Ln., Dept. VM
Huntington Beach, CA 92649
(800) 750-0627
www.gdpurepower.com

DIRECTED FLOW
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EXHIBIT I

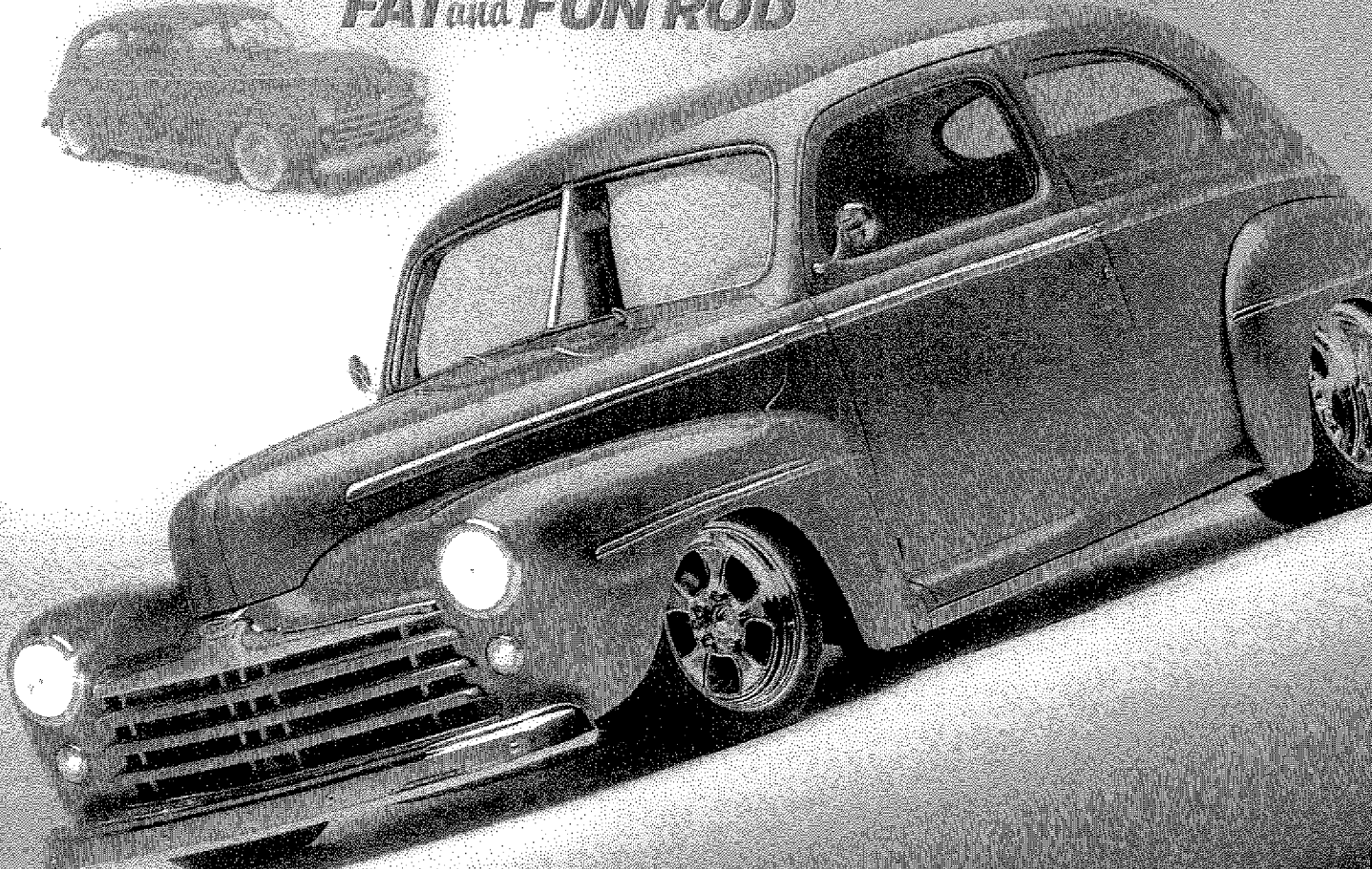
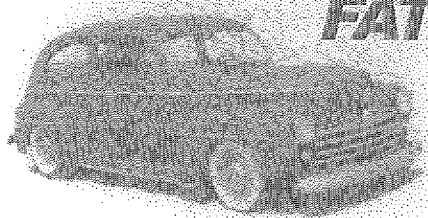
ROD & *Custom*



'60s MILD CUSTOM... See page 68

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Oil 101

number (TBN) above 7 is alkaline, 7 is neutral, and below 7 is acidic. Oil needs a TBN above 7 to neutralize acid. Good commercial-grade oils will typically have a base number in the high 9s, and shouldn't be lower than somewhere in the 8s. Pure Power! prints its TBN of 1244 on every label. Kelly has tested many brands of oil, and found some with TBN as low as 3—close to lemon juice!

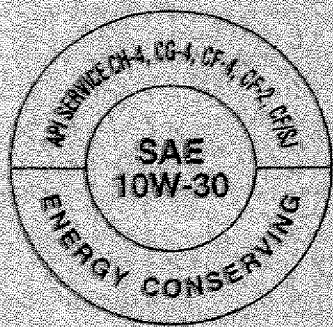
OIL CHANGES

Dark, dirty oil doesn't necessarily mean it's time for a change. It means that the additive pack is still working, keeping fuel soot and other particles in suspension in the oil and not settling out in your engine.

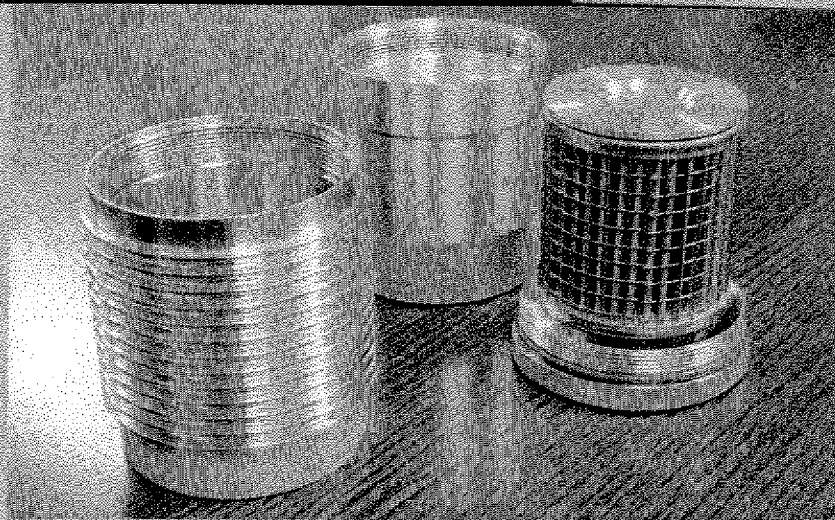
"TV commercials telling you to change your oil at 2000 or 2,500 miles are just trying to sell oil," Kelly says. The correct frequency is not a matter of months or miles, but of whether or not the oil is still doing its job. According to Kelly, a quality oil, at least 10W-30 grade, should be able to go 5000 miles under normal service; a good commercial-grade 10W-30 or 15W-40 should go 7500 miles. Change the oil after fewer miles if your car is driven infrequently, unless you're using a good commercial-grade oil with a high TBN.

READING THE BOTTLE

The symbols on a motor oil label can tell you a lot about the oil. Look



The API Service Symbol (left) and the API Certification Mark on the outside of the bottle tell you something about the oil on the inside. Pure Power! also identifies its high TBN number on the front label.



Pure Power! Lifetime filters, available in various sizes, won SEMA's *International Best New Product Award* in 2005. The filter material features pleated duplex woven stainless with a large filter area. These interchangeable and re-useable spin-on housings are built from 6061 T6 billet aluminum, which helps dissipate heat.

for two "quality marks" designated by the American Petroleum Institute (API). The round API Service Symbol is divided into three sections. The upper arch identifies the oil's performance level, using the letters S or C followed by another letter. S (for Service) identifies oil intended for gasoline-powered passenger cars and light trucks. SL (approved for all engines currently in use) and SJ (for 2001-and-earlier engines) are the current, and most common, categories. C (for Commercial) identifies oil intended for diesel-powered, heavy-duty trucks (the so-called "truck oils"). Designations are based on additive packs for oils in that category. The most current high level is CI-4. Less current S and C categories are listed on the API Web site at www.api.org. Pure Power! LHP

oils are API certified and meet the standards of all of the current C categories as well as the SL category.

The center section of this symbol identifies oil viscosity. The lower arch identifies the Fuel Economy Rating, and refers to a passenger vehicle gasoline engine's ability to meet API energy conservation standards.

The separate "starburst" symbol is an API certification that the oil meets established engine protection and fuel economy standards.

WHAT'S THE BEST OIL FOR YOUR HOT ROD?

Good commercial-grade heavy-duty oil is a better grade than PCMO, Kelly says, and commercial oils can be used in gasoline engines. For general highway use, he recommends using a good commercial API-certified 10W-30 for longer engine life. Thinner oils with lower base numbers (e.g. 5W-30 and 5W-20) were created to satisfy fuel economy standards, but wear out far more quickly than heavier weights. Ultimately, he recommends checking the label to determine the quality of the additive pack.

FILTERS

The most common oil filters contain a disposable, pleated paper/cellulose element. Kelly's criticism of these disposable filters is that the elements aren't porous enough for oil to flow

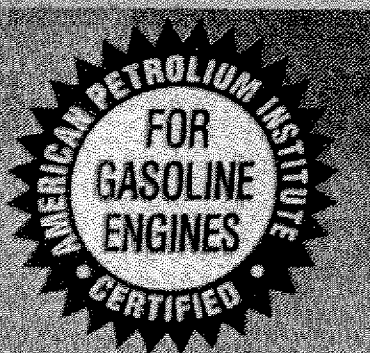
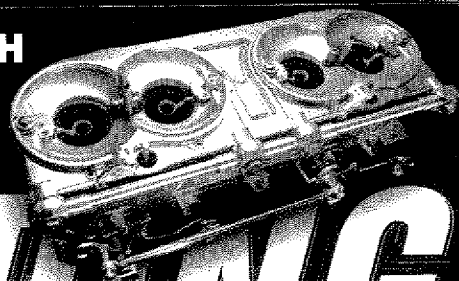


EXHIBIT J

**FIRST LOOK! BARRY GRANT'S BREAKTHROUGH
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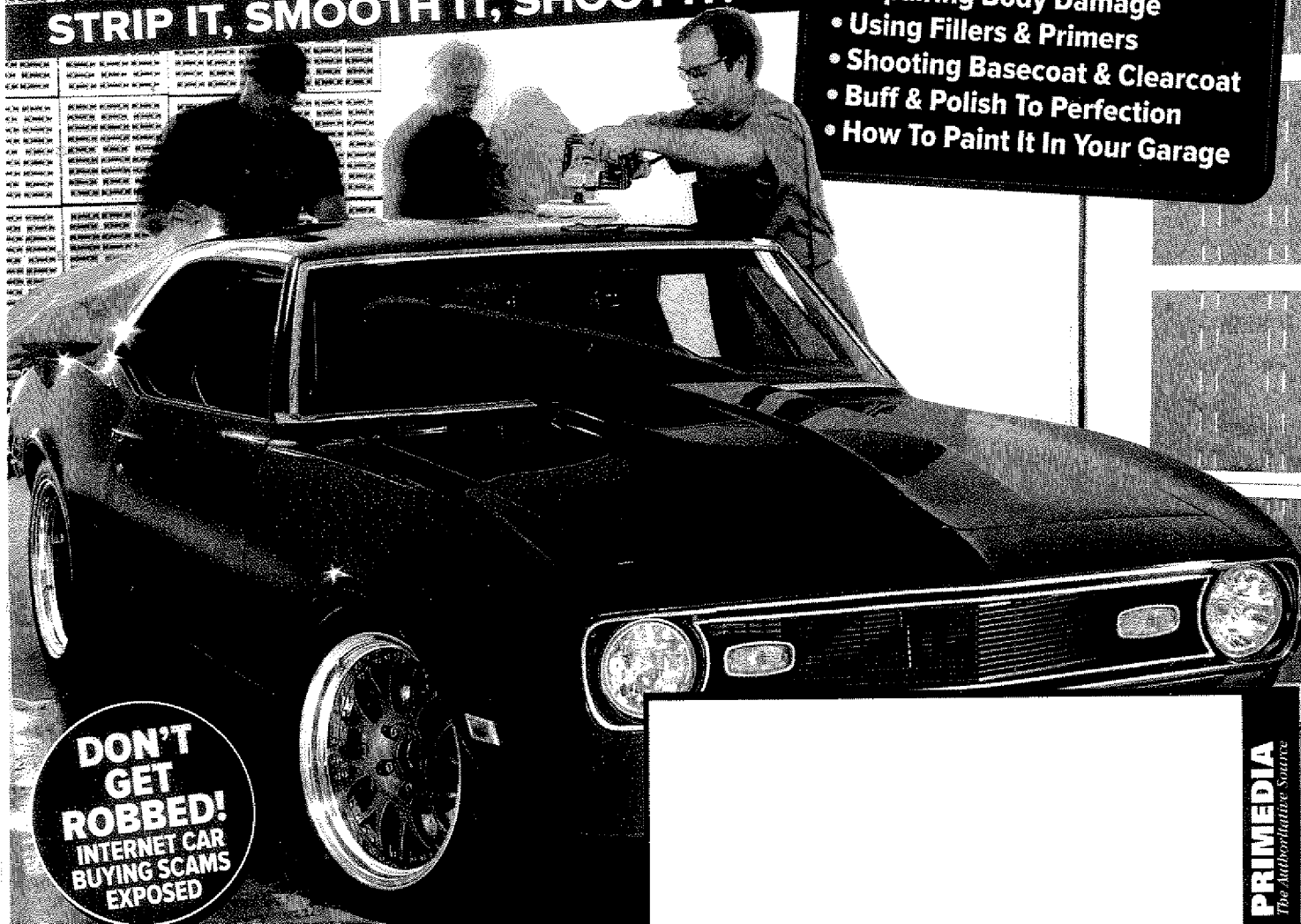
POPULAR HOT RODDING

BODYSHOP BASICS

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SPECIAL ISSUE

- Getting Down To Bare Metal
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- Repairing Body Damage
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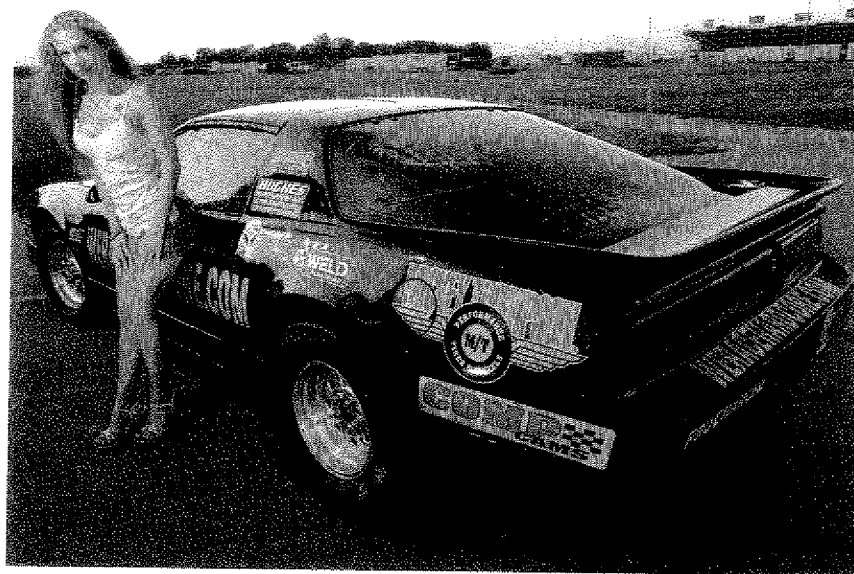
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Yes, yelling and lying does qualify as drama, so the real question is, do you like drama? And while some TV watchers may not like drama, millions of other viewers do. PHR does not condone street racing, in fact, "Pinks" takes it off the street, and puts it where it belongs: at the track, and on TV. PHR does promote safe racing, including bracket racing, which we cover regularly in our Super Chevy Show coverage.

HOUSTON AREA FIREBIRDS

I'm sure you get plenty of e-mails and photos on a daily basis, but you probably don't get many First Generation Firebirds in your inbox. The attached photo was taken a couple of weeks ago at a friend's housewarming party. Five-car garage with lift. Fantastic! We are the HALF Group (Houston Area Legendary Firebirds) and we are a no-club club of about 25 First Generation Firebirds. By no-club club, I mean there is no formal organization, just good friends with varied backgrounds who love our Firebirds and enjoy getting together and driving them. If you find yourself coming to Houston in the future, let us know, and we will get the cars

together for a mini-cruise and some dinner, magazine spot or not.

Andy Hewes, '67 convertible
Houston, TX

Thanks for the photo, Andy, and we hope you like the feature on John Wargo's '68 Firebird in this issue.

VIZARD EFI COMPARO

I subscribe to PHR because of articles like Vizard's comparo of EFI with carb induction. [See "Command Performance," Jan. '07-ed.] He understands that eliminating as many variables as possible makes a comparo valid. God, I am so sick of magazine articles that tell me they are going to test product X, and then go on to test a combo of X, Y, and Z. I would've loved to see Vizard (the best tech writer in the business) include a largely ignored compromise in this comparo: the Barry Grant Venturi Fuel Injection system, which, as I understand, is a sort of throttle-body injection system. Maybe the middle of the road has something to offer in this situation. While I'm on the subject, how about a comparo between the Edelbrock Performer RPM Air-Gap and the new Weiland Air Strike

intake manifold? Again, thanks for putting out the best magazine in the business. I can't foresee a time when I won't be a subscriber.

Doug Elwell
via Internet

"God, I am so sick of magazine articles that tell me they are going to test product X, and then go on to test a combo of X, Y, and Z."—Doug Elwell via Internet

Doug, we have seen Barry Grant's new Venturi fuel injection system and it was only displayed as a mock-up at the SEMA show. We will report on it as soon as working units are available for photography and testing. It looks like a very promising unit! As for testing the Air Strike against the Air Gap, these intakes are so similar in design and performance that we'd be splitting hairs. A proper test would compare different styles of intakes within a company's product range. This is far more instructional in terms of which intake to pick and how to set up compression and cam specs. There's barely a noticeable difference between attached runner and divorced runner intakes (maybe 3 to 5 hp on a 350), so a comparison between two divorced-runner manifolds would have minimal value.

ENGINE MASTERS FAMILY VACATION

I wanted to let you guys know what an incredible time we had at the Jeg's Engine Masters Challenge. It definitely was one of the best times we've had as a family. We have decided to make a go of this engine build-




ing adventure. I formed a new company as M6 Motorsports LLC, and will be focusing on LS Chevy marine engines, both crate and custom.

I took the little Ford apart when I got back, and found that it looked really good, except for the rod bearings. I have attributed that to a faulty caliper that was used during assembly. I'm lucky it didn't spin a bearing. I know one thing for sure, the Pure Power! oil filter saved my butt. There was no metal anywhere but the filter. Very cool stuff.

I want to thank all the Primedia staff for being so welcoming and friendly to my family. I was truly amazed at the camaraderie that took place with so many big names. I look forward to getting the new rules for next year's engine. I think I'll start it a little sooner this time though.

The Millers—Matt, Deni, Brittany, Colton, Jacob, and Kyle
Orange Grove, TX

Thanks for coming out. Matt it looked like you guys were really having a great time. We hope to see you there in 2007. 



LET YOUR VOICE BE HEARD!

We want your input in *Popular Hot Rodding*, but we aren't psychic. Let us know how you feel about this issue, or if you've got an idea or a gripe. We take compliments, too (that lets us know we're doing things right). Contact us by e-mail at john.hunkins@primedia.com, or send snail mail to: Primedia, Attn: Popular Hot Rodding, 774 S. Placentia Ave., Placentia, CA 92870.

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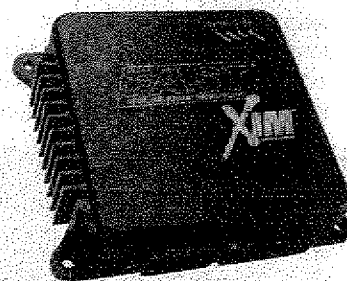
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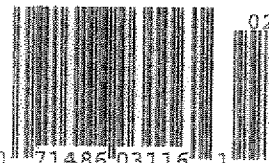


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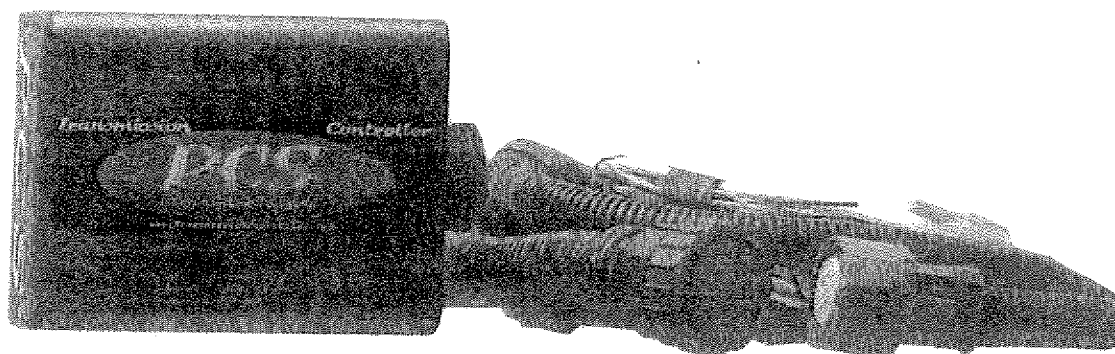
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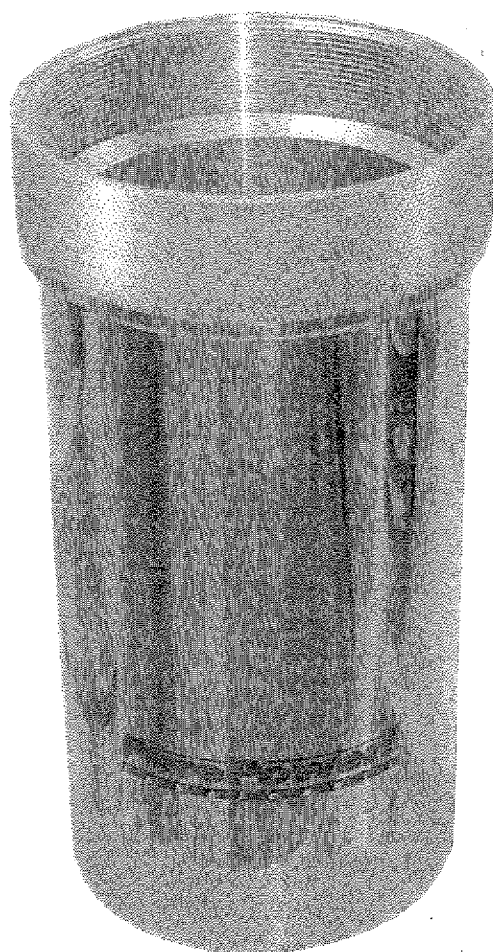
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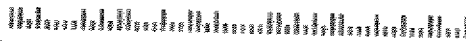
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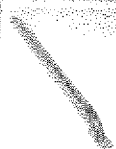
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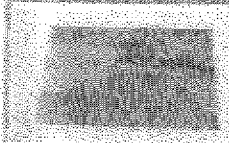
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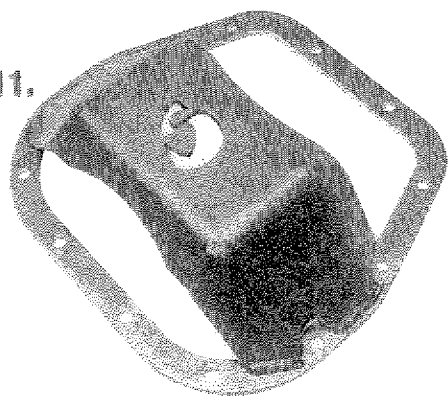
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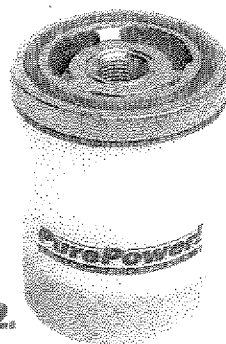
**How to Navigate
the Big Rocks**



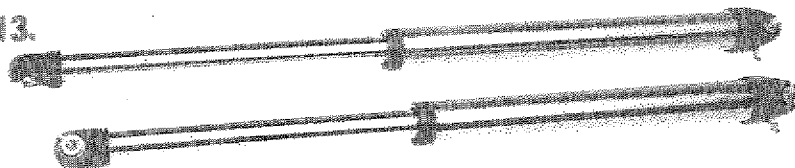
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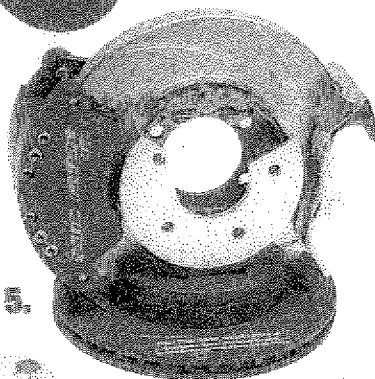
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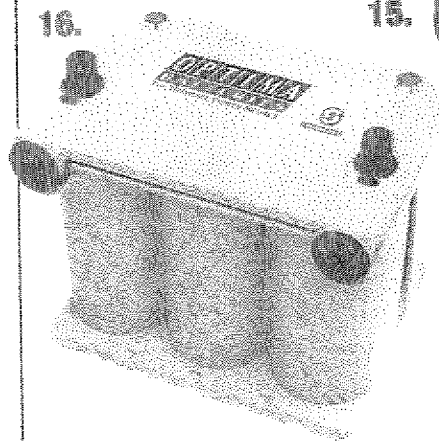
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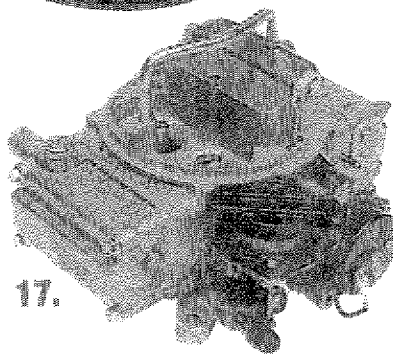
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11. This is the first locking locker-adjustment assembly, which has prevailing torque resistance to prevent the adjustment nut from loosening instead of just pressing against stud tops as other assemblies.

Brosilin Performance Products/Spit-Lock, (623) 979-3690, www.go-brosilin.com

12. Extreme Ring differential cover protectors are manufactured for all popular axles and are as attractive as they are functional.

Superlift Suspension Systems, (800) 551-4955, www.superlift.com

13. This cleanable and reusable 6061 T6 aluminum housing has high-flow absolute filtration through stainless-steel media and has been tested to be 90 percent more effective. Direct spin-on or unique remote units are available and eliminate disposal cost and time waste, and extend oil changes.

Pure Power, (714) 694-2994, www.pure-power.com

14. Brand-new for 2005, Sway-A-Way's Race Runner's 2-inch air shock is just what the doctor ordered for the extreme-rock-crawling market.

Sway-A-Way, (818) 700-9712, www.sway-away.com

15. SSBC now offers these new Tin Power three-piston aluminum caliper kit for later-model GM 3/4-ton 2WD and 4WD trucks and SUVs is a direct bolt-on replacement and also fits 1-ton GM trucks.

Stainless Steel Brakes, (800) 448-7722, www.ssbrakes.com

16. This rear-disc-brake conversion now comes with a stainless-steel internal parking-brake system, aluminum calipers, and rotors from 11 to 13 inches long. Applications for Ford 9-inch and GM 10- and 12-ball rearends.

Stainless Steel Brakes, (800) 448-7722, www.ssbrakes.com

17. Optima's 75/25 Yellow Top is a universal-fitting dual-purpose high-performance battery that exceeds the requirements of today's demanding OE and aftermarket electrical systems.

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18. These carburetors have been specifically designed to handle 45-degree bends and

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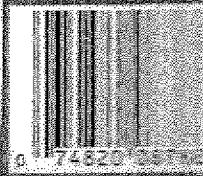
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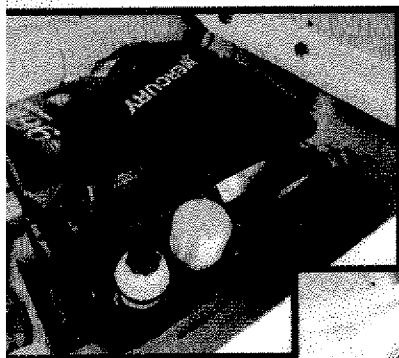
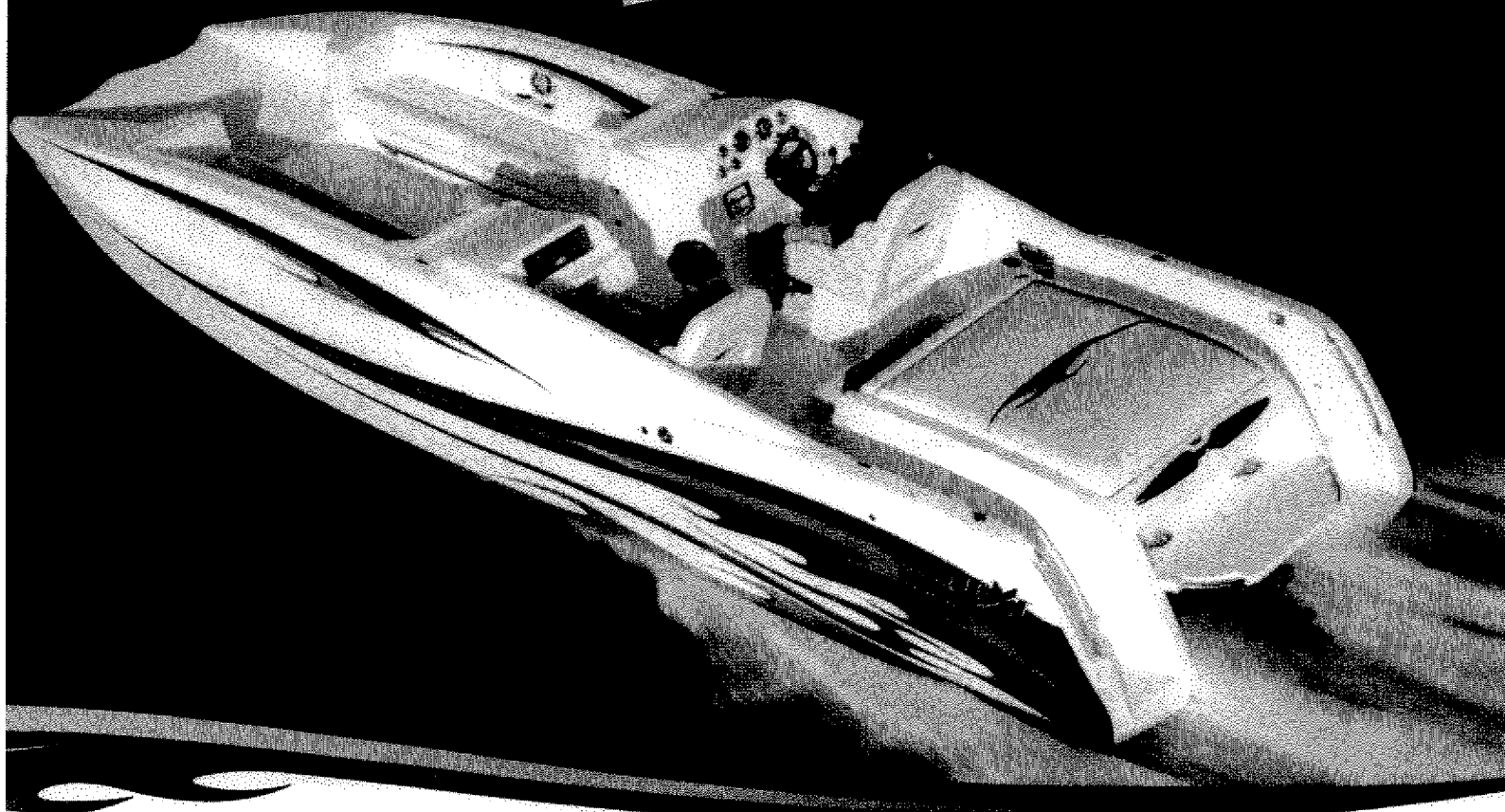
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